LibreOffice

LibreOffice Documentation Team

5

Getting Started Guide

Writer   Calc   Impress   Draw   Base   Math

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Contents

Preface

Who is this book for?

Anyone who wants to get up to speed quickly with LibreOffice will find this Getting Started Guide valuable. You may be new to office software, or you may be familiar with another office suite.

What's in this book?

This book introduces the main components of LibreOffice:

- Writer (word processing)
- Calc (spreadsheets)
- Impress (presentations)
- Draw (vector graphics)
- Base (database
- Math (equation editor)

It also covers some of the features common to all components, including setup and customization, styles and templates, macro recording, and printing. For more detail, see the user guides for the individual components.

Where to get more help

This book, the other LibreOffice user guides, the built-in Help system, and user support systems assume that you are familiar with your computer and basic functions such as starting a program, opening and saving files.

Help system

LibreOffice comes with an extensive Help system. This is your first line of support for using LibreOffice.

To display the full Help system, press *F1* or select **LibreOffice Help** from the Help menu. In addition, you can choose whether to activate Tips, Extended tips, and the Help Agent (using **Tools > Options > LibreOffice > General**).

If Tips are enabled, place the mouse pointer over any of the icons to see a small box ("tooltip") with a brief explanation of the icon's function. For a more detailed explanation, select **Help > What's This?** and hold the pointer over the icon.

Free online support

The LibreOffice community not only develops software, but provides free, volunteer-based support. See Table 1 and this web page: http://www.libreoffice.org/get-help/

You can get comprehensive online support from the community through mailing lists and the Ask LibreOffice website. Other websites run by users also offer free tips and tutorials. This forum provides community support for LibreOffice: http://en.libreofficeforum.org/

This site provides support for LibreOffice, among other programs:
http://forum.openoffice.org/en/forum/

Table 1: Free support for LibreOffice users

Free LibreOffice support	
Ask LibreOffice	Questions and answers from the LibreOffice community http://ask.libreoffice.org/en/questions/
Documentation	User guides, how-tos, and other documentation. http://www.libreoffice.org/get-help/documentation/ https://wiki.documentfoundation.org/Documentation/Publications
FAQs	Answers to frequently asked questions http://wiki.documentfoundation.org/Faq
Mailing lists	Free community support is provided by a network of experienced users http://www.libreoffice.org/get-help/mailing-lists/
International support	The LibreOffice website in your language. http://www.libreoffice.org/international-sites/ International mailing lists http://wiki.documentfoundation.org/Local_Mailing_Lists
Accessibility options	Information about available accessibility options. http://www.libreoffice.org/get-help/accessibility/

Paid support and training

Alternatively, you can pay for support services. Service contracts can be purchased from a vendor or consulting firm specializing in LibreOffice.

What you see may be different

Illustrations

LibreOffice runs on Windows, Linux, and Mac OS X operating systems, each of which has several versions and can be customized by users (fonts, colors, themes, window managers). The illustrations in this guide were taken from a variety of computers and operating systems. Therefore, some illustrations will not look exactly like what you see on your computer display.

Also, some of the dialogs may be different because of the settings selected in LibreOffice. You can either use dialogs from your computer system (default) or dialogs provided by LibreOffice. To change to using LibreOffice dialogs:

1) On Linux and Windows operating systems, go to **Tools > Options > LibreOffice > General** on the menu bar to open the dialog for general options.

   On a Mac operating system, go to **LibreOffice > Preferences > General** on the menu bar to open the dialog for general options.

2) Select *Use LibreOffice dialogs* in *Open/Save dialogs* to display the LibreOffice dialogs.

3) Click **OK** to save your settings and close the dialog.

Icons

The icons used to illustrate some of the many tools available in LibreOffice may differ from the ones used in this guide. The icons in this guide have been taken from a variety of LibreOffice installations that use different sets of icons.

Using LibreOffice on a Mac

Some keystrokes and menu items are different on a Mac from those used in Windows and Linux. The table below gives some common substitutions for the instructions in this chapter. For a more detailed list, see the application Help.

Windows or Linux	Mac equivalent	Effect
Tools > Options menu selection	**LibreOffice > Preferences**	Access setup options
Right-click	Control+click and/or right-click depending on computer setup	Open a context menu
Ctrl (Control)	⌘ *(Command)*	Used with other keys
F5	*Shift+⌘+F5*	Open the Navigator
F11	*⌘+T*	Open the Styles and Formatting window

What are all these things called?

The terms used in LibreOffice for most parts of the user interface (the parts of the program you see and use, in contrast to the behind-the-scenes code that actually makes it work) are the same as for most other programs.

A dialog is a special type of window. Its purpose is to inform you of something, or request input from you, or both. It provides controls for you to use to specify how to carry out an action. The technical names for common controls are shown in Figure 1 (legend is on next page). In most cases the technical terms are not used in this book, but it is useful to know them because the Help and other sources of information often use them.
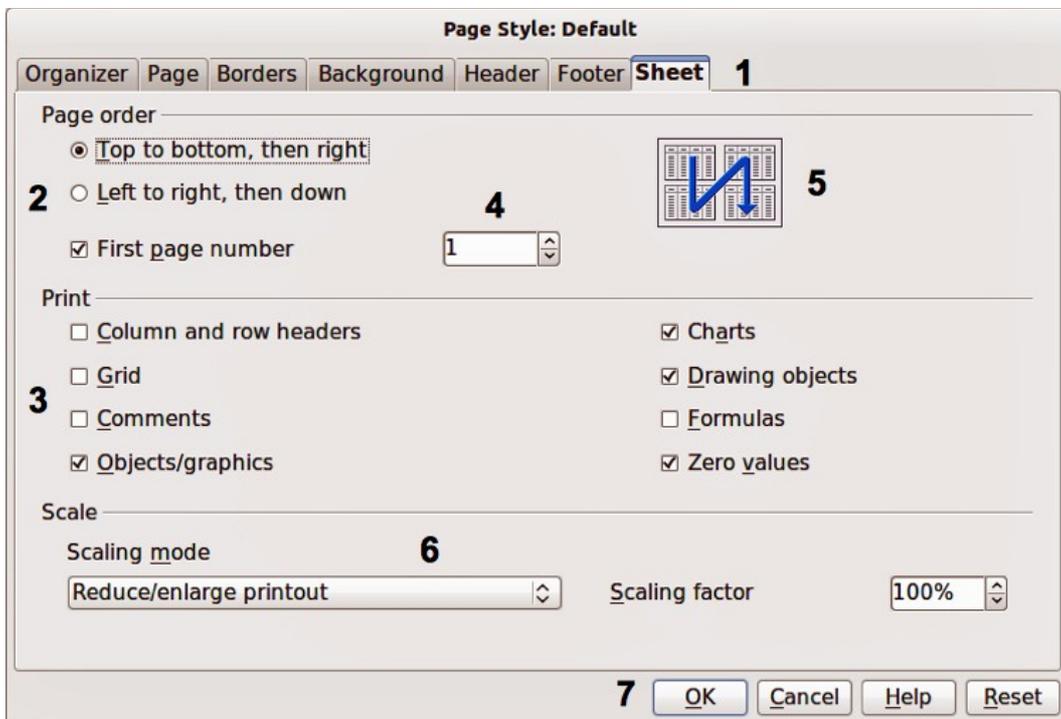
Figure 1: Dialog showing common controls

1) Tabbed page (not strictly speaking a control).

2) Radio buttons (only one can be selected at a time).

3) Checkbox (more than one can be selected at a time).

4) Spin box (click the up and down arrows to change the number shown in the text box next to it, or type in the text box).

5) Thumbnail or preview.

6) Drop-down list from which to select an item.

7) Push buttons.

In most cases, you can interact only with the dialog (not the document itself) as long as the dialog remains open. When you close the dialog after use (usually, clicking OK or another button saves your changes and closes the dialog), then you can again work with your document.

Some dialogs can be left open as you work, so you can switch back and forth between the dialog and your document. An example of this type is the Find & Replace dialog.

Who wrote this book?

This book was written by volunteers from the LibreOffice community. Profits from sales of the printed edition will be used to benefit the community.

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Frequently asked questions

How is LibreOffice licensed?
LibreOffice 4.4 is distributed under the Open Source Initiative (OSI) approved Mozilla Public License (MPL). The MPL license is available from http://www.mozilla.org/MPL/2.0/.

May I distribute LibreOffice to anyone? May I sell it? May I use it in my business?
Yes.

How many computers may I install it on?
As many as you like.

Is LibreOffice available in my language?

LibreOffice has been translated (localized) into over 40 languages, so your language probably is supported. Additionally, there are over 70 *spelling*, *hyphenation*, and *thesaurus* dictionaries available for languages, and dialects that do not have a localized program interface. The dictionaries are available from the LibreOffice website at: www.libreoffice.org.

How can you make it for free?

LibreOffice is developed and maintained by volunteers and has the backing of several organizations.

I am writing a software application. May I use programming code from LibreOffice in my program?

You may, within the parameters set in the MPL. Read the license: http://www.mozilla.org/MPL/2.0/.

Why do I need Java to run LibreOffice? Is it written in Java?

LibreOffice is not written in Java; it is written in the C++ language. Java is one of several languages that can be used to extend the software. The Java JDK/JRE is only required for some features. The most notable one is the HSQLDB relational database engine.

Note: Java is available at no cost. If you do not want to use Java, you can still use nearly all of the features of LibreOffice.

How can I contribute to LibreOffice?

You can help with the development and user support of LibreOffice in many ways, and you do not need to be a programmer. To start, check out this webpage: http://www.documentfoundation.org/contribution/

May I distribute the PDF of this book, or print and sell copies?

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What's new in LibreOffice 5.0?

The LibreOffice 5.0 Release Notes are here:
https://wiki.documentfoundation.org/ReleaseNotes/5.0

Chapter 1
Introducing LibreOffice

What is LibreOffice?

LibreOffice is a freely available, fully-featured office productivity suite. Its native file format is Open Document Format (ODF), an open standard format that is being adopted by governments worldwide as a required file format for publishing and accepting documents. LibreOffice can also open and save documents in many other formats, including those used by several versions of Microsoft Office.

LibreOffice includes the following components.

Writer (word processor)

Writer is a feature-rich tool for creating letters, books, reports, newsletters, brochures, and other documents. You can insert graphics and objects from other components into Writer documents. Writer can export files to HTML, XHTML, XML, Adobe Portable Document Format (PDF), and several versions of Microsoft Word files. It also connects to your email client.

Calc (spreadsheet)

Calc has all of the advanced analysis, charting, and decision making features expected from a high-end spreadsheet. It includes over 300 functions for financial, statistical, and mathematical operations, among others. The Scenario Manager provides "what if" analysis. Calc generates 2D and 3D charts, which can be integrated into other LibreOffice documents. You can also open and work with Microsoft Excel workbooks and save them in Excel format. Calc can also export spreadsheets in several formats, including for example Comma Separated Value (CSV), Adobe PDF and HTML formats.

Impress (presentations)

Impress provides all the common multimedia presentation tools, such as special effects, animation, and drawing tools. It is integrated with the advanced graphics capabilities of LibreOffice Draw and Math components. Slideshows can be further enhanced using Fontwork special effects text, as well as sound and video clips. Impress is compatible with Microsoft PowerPoint file format and can also save your work in numerous graphics formats, including Macromedia Flash (SWF).

Draw (vector graphics)

Draw is a vector drawing tool that can produce everything from simple diagrams or flowcharts to 3D artwork. Its Smart Connectors feature allows you to define your own connection points. You can use Draw to create drawings for use in any of the LibreOffice components, and you can create your own clip art and then add it to the Gallery. Draw can import graphics from many common formats and save them in over 20 formats, including PNG, HTML, PDF, and Flash.

Base (database)

Base provides tools for day-to-day database work within a simple interface. It can create and edit forms, reports, queries, tables, views, and relations, so that managing a relational database is much the same as in other popular database applications. Base provides many new features, such as the ability to analyze and edit relationships from a diagram view. Base incorporates two relational database engines, HSQLDB and PostgreSQL. It can also use dBASE, Microsoft Access, MySQL, or Oracle, or any ODBC compliant or JDBC compliant database. Base also provides support for a subset of ANSI-92 SQL.

Math (formula editor)

Math is the LibreOffice formula or equation editor. You can use it to create complex equations that include symbols or characters not available in standard font sets. While it is most commonly used to create formulas in other documents, such as Writer and Impress files, Math can also work as a standalone tool. You can save formulas in the standard Mathematical Markup Language (MathML) format for inclusion in web pages and other documents not created by LibreOffice.

Advantages of LibreOffice

Here are some of the advantages of LibreOffice over other office suites:

- **No licensing fees**. LibreOffice is free for anyone to use and distribute at no cost. Many features that are available as extra cost add-ins in other office suites (like PDF export) are free with LibreOffice. There are no hidden charges now or in the future.
- **Open source.** You can distribute, copy, and modify the software as much as you wish, in accordance with the LibreOffice Open Source licenses.
- **Cross-platform.** LibreOffice runs on several hardware architectures and under multiple operating systems, such as Microsoft Windows, Mac OS X and Linux.
- **Extensive language support**. The LibreOffice user interface, including spelling, hyphenation, and thesaurus dictionaries, is available in over 100 languages and dialects. LibreOffice also provides support for both Complex Text Layout (CTL) and Right to Left (RTL) layout languages (such as Urdu, Hebrew, and Arabic).
- **Consistent user interface.** All the components have a similar "look and feel," making them easy to use and master.
- **Integration.** The components of LibreOffice are well integrated with one another.
  - All the components share a common spelling checker and other tools, which are used consistently across the suite. For example, the drawing tools available in Writer are also found in Calc, with similar but enhanced versions in Impress and Draw.
  - You do not need to know which application was used to create a particular file. For example, you can open a Draw file from Writer.
- **Granularity.** Usually, if you change an option, it affects all components. However, LibreOffice options can be set at a component level or even at document level.
- **File compatibility.** In addition to its native OpenDocument formats, LibreOffice includes support for opening and saving files in many common formats including Microsoft Office, HTML, XML, WordPerfect, Lotus 1-2-3, and PDF.
- **No vendor lock-in.** LibreOffice uses OpenDocument, an XML (eXtensible Markup Language) file format developed as an industry standard by OASIS (Organization for the Advancement of Structured Information Standards). These files can easily be unzipped and read by any text editor, and their framework is open and published.
- **You have a voice.** Enhancements, software fixes, and release dates are community-driven. You can join the community and affect the course of the product you use.

You can read more about LibreOffice and The Document Foundation on their websites at http://www.libreoffice.org/ and http://www.documentfoundation.org/.

Minimum requirements

LibreOffice 5.0 requires one of the following operating systems:

- **Microsoft Windows** XP, Vista, Windows 7, Windows 8/8.1, or Windows 10.
- **GNU/Linux** Kernel version 2.6.18, glibc2 v2.5 or higher, and gtk v2.10.4 or higher
- **Mac OS X** 10.8 (Mountain Lion) or higher

Administrator rights are needed for the installation process.

Some LibreOffice features (wizards and the HSQLDB database engine) require that the Java Runtime Environment (JRE) is installed on your computer. Although LibreOffice will work without Java support, some features will not be available.

For a more detailed listing of requirements, see the LibreOffice website, http://www.libreoffice.org/get-help/system-requirements/.

How to get the software

Versions of LibreOffice for Windows, Linux, and Mac OS X can be downloaded free from http://www.libreoffice.org/download. You can also download the software by using a Peer-to-Peer client, such as BitTorrent, at the same address.

Linux users will also find LibreOffice included in many of the latest Linux distributions; Ubuntu is just one example.

Mac OS X users can also get two versions of LibreOffice from the App Store: LibreOffice Vanilla (free) and LibreOffice-from-Collabora (an enterprise-ready version; small fee).

How to install the software

Information on installing and setting up LibreOffice on the various supported operating systems is given here: http://www.libreoffice.org/get-help/install-howto/.

Extensions and add-ons

Extensions and add-ons are available to enhance LibreOffice. Several extensions are installed with the program and you can get others from the official extensions repository, http://extensions.libreoffice.org/. See *Chapter 14 Customizing LibreOffice* for more information on installing extensions and add-ons.

Starting LibreOffice

In general, you start LibreOffice the same way you start any other program on your computer.

On computers with Windows or Linux operating systems, a menu entry for LibreOffice and each LibreOffice component appears in the system menu of your computer. On computers operating Mac OS X, only a menu entry for LibreOffice is added to the Applications menu.

Clicking on the LibreOffice menu entry, desktop icon, or tile opens the LibreOffice Start Center (Figure 2) from where you can select the individual components of LibreOffice. You can also select to open an existing file or use a template.
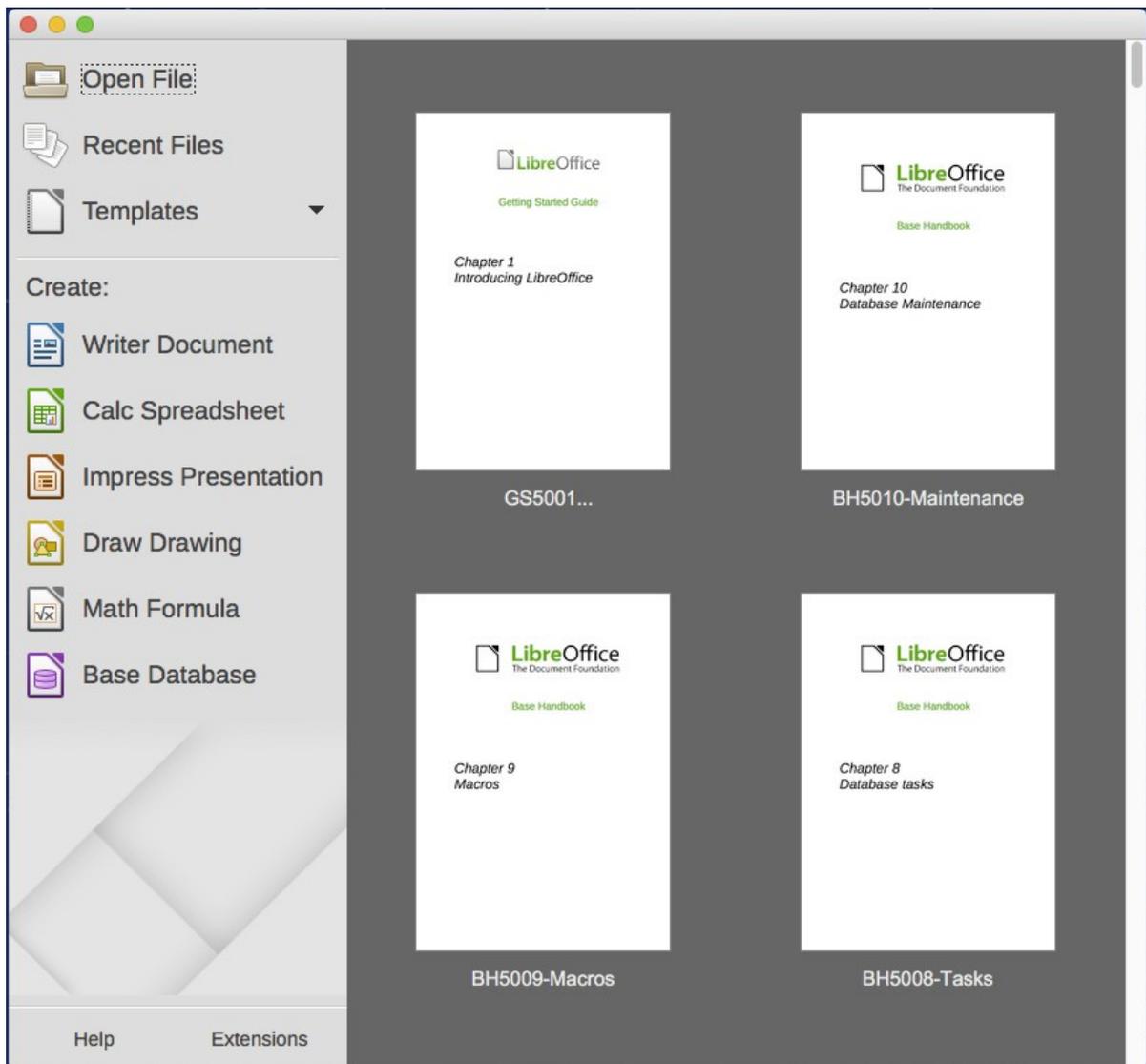
Figure 2: LibreOffice Start Center

Opening an existing document before starting LibreOffice

You can start LibreOffice by double-clicking the filename of an ODF document on the desktop, or in a file manager such as Windows Explorer or the Mac's Finder. The appropriate component of LibreOffice will start and the document will be loaded.

If you do not have Microsoft Office installed on your computer, or if Microsoft Office is installed and you have associated Microsoft Office file types with LibreOffice, then when you double-click on the following files, they open in LibreOffice:

- A Word file (*.doc or *.docx) opens in Writer.
- An Excel file (*.xls or *.xlsx) opens in Calc.
- A PowerPoint file (*.ppt or *.pptx) opens in Impress.

If you did not associate the file types and Microsoft Office is installed on your computer, then when you double-click on a Microsoft Office file, it opens using the appropriate Microsoft Office component.

For more information on opening files, see "Opening existing documents" on page 27.

Quickstarter

When LibreOffice is installed on computers running Windows or Linux, a Quickstarter feature may also be installed. When Quickstarter is activated, the necessary library files are loaded when the computer system is started, resulting in a shorter startup time for LibreOffice components.

Computers with a Mac operating system do not have a Quickstarter.

Activating Quickstarter

On computers operating a Linux or Windows operating system, the default installation of LibreOffice does not set the Quickstarter to load automatically. To activate it:

1) Open LibreOffice.

2) Go to **Tools > Options > LibreOffice > Memory** on the Menu bar and select *Load LibreOffice during system start-up* (if using Windows) or select *Enable systray Quickstarter* (if using Linux).

3) Close and restart LibreOffice to have Quickstarter appear.

Using Quickstarter on Windows or Linux

After Quickstarter has been activated, an icon ⬜ is installed into the system tray at the bottom of the display. Quickstarter is then available at all times, whether LibreOffice is open or not.

To start a LibreOffice component directly by using Quickstarter:

1) Right-click the **Quickstarter** icon in the system tray to open a pop-up menu (Figure 3).

2) Select the LibreOffice component you want to open to create a new document, or select **From Template** to open the Template Manager, or select **Open Document** to open an existing document.
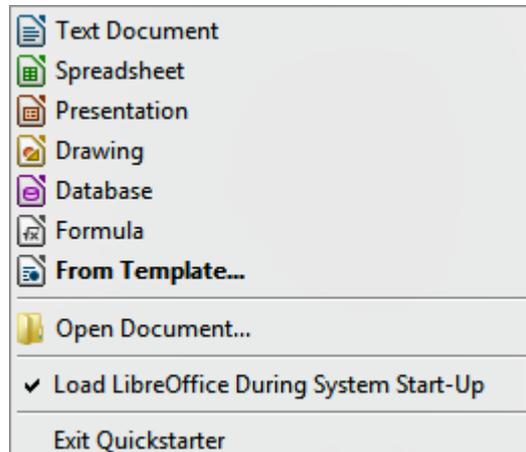
Figure 3: Quickstarter menu in Windows

Disabling Quickstarter

To temporarily close Quickstarter on a computer using a Windows operating system, right-click on the **Quickstarter** icon in the system tray and select **Exit Quickstarter** in the pop-up menu. However, when the computer is restarted, Quickstarter will be loaded again.

To prevent the Quickstarter from loading during system startup, do one of the following:

• Right-click on the **Quickstarter** icon and deselect **Load LibreOffice during system start-up** on the pop-up menu (on Windows) or select **Disable systray Quickstarter** (on Linux).

- Go to **Tools > Options > LibreOffice > Memory** on the Menu bar and deselect **Load LibreOffice during system start-up** (on Windows) or deselect **Enable systray Quickstarter** on Linux.

Reactivating Quickstarter

If Quickstarter has been disabled, you can reactivate it by using the instructions given in "Activating Quickstarter" above.

Parts of the main window

The main window is similar for each component of LibreOffice, although some details vary. See the relevant chapters in this guide about Writer, Calc, Draw, and Impress for descriptions of those details.

Common features include the Menu bar, standard toolbar, and formatting toolbar at the top of the window and the status bar at the bottom.

Menu bar

The *Menu bar* is located across the top of the LibreOffice window, just below the title bar. When you select one of the menus listed below, a sub-menu drops down to show commands.

- **File** – contains commands that apply to the entire document such as Open, Save, and Export as PDF.
- **Edit** – contains commands for editing the document such as Undo, Find & Replace, Cut, Copy, and Paste.
- **View** – contains commands for controlling the display of the document such as Zoom and Web Layout.
- **Insert** – contains commands for inserting elements into your document such as Header, Footer, and Picture.
- **Format** – contains commands, such as Styles and Formatting and AutoCorrect, for formatting the layout of your document.
- **Table** – contains commands to insert and edit a table in a text document.
- **Tools** – contains functions such as Spelling and Grammar, Customize, and Options.
- **Window** – contains commands for the display window.
- **Help** – contains links to the LibreOffice Help file, What's This?, and information about the program.

Toolbars

LibreOffice has two types of toolbars: docked (fixed in place) and floating. Docked toolbars can be moved to different locations or made to float, and floating toolbars can be docked.

In a default LibreOffice installation, the top docked toolbar, just under the Menu bar, is called the *Standard* toolbar. It is consistent across the LibreOffice applications.

The second toolbar at the top, in a default LibreOffice installation, is the *Formatting* bar. It is context-sensitive; that is, it shows the tools relevant to the current position of the cursor or the object selected. For example, when the cursor is on a graphic, the Formatting bar provides tools for formatting graphics; when the cursor is in text, the tools are for formatting text.

Displaying or hiding toolbars

To display or hide toolbars, go to **View > Toolbars** on the Menu bar, then click on the name of a toolbar from the drop-down list. An active toolbar shows a check-mark beside its name. Toolbars created from tool palettes are not listed in the View menu.

To close a toolbar go to **View > Toolbars** on the Menu bar and deselect the toolbar, or right-click in an empty space between the icons on a toolbar and select **Close toolbar** from the context menu.

Sub-menus and tool palettes

Toolbar icons with a small triangle to the right will display *sub-menus*, *tool palettes*, and alternative methods of selecting items, depending on the icon.

Tool palettes can be made into a floating toolbar. Figure 4 shows an example of a tool palette from the Drawing toolbar made into a floating toolbar. See "Moving toolbars" and "Floating toolbars" below for more information on moving and floating these toolbars created from tool palettes.
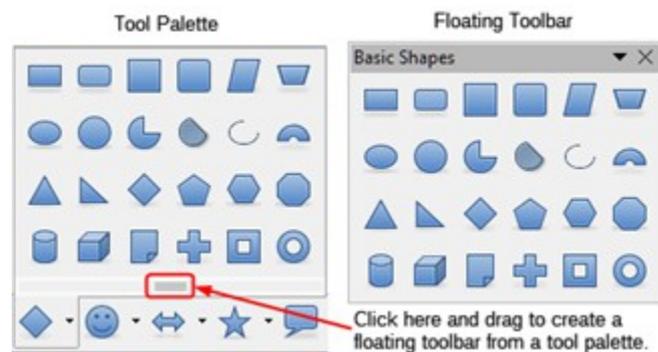
Figure 4: Example of tearing off a tool palette

Moving toolbars

Docked toolbars can be undocked and moved to a new docked position or left as a floating toolbar.

1) Move the mouse cursor over the toolbar handle, which is the small vertical bar to the left of a docked toolbar and highlighted in Figure 5.

2) Hold down the left mouse button and drag the toolbar to the new location. The toolbar can be docked in a new position at the top, sides or bottom of the main window, or left as a floating toolbar.

3) Release the mouse button.

To move a floating toolbar, click on its title bar and drag it to a new floating location or dock the toolbar at the top or bottom of the main window.
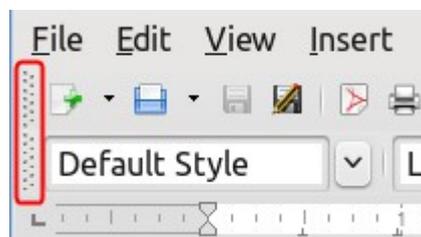
Figure 5: Toolbar handles

Note

> You can also dock a floating toolbar by holding down the *Ctrl* key and double-clicking in the title bar of the toolbar.

Floating toolbars

LibreOffice includes several additional toolbars, whose default setting appear as floating toolbars in response to the current position of the cursor or selection. You can dock these toolbars to the top or bottom of the main window, or reposition them on your computer display (see "Moving toolbars" above).

Some of these additional toolbars are context sensitive and will automatically appear depending on the position of the cursor. For example, when the cursor is in a table, a *Table* toolbar appears, and when the cursor is in a numbered or bullet list, the *Bullets and Numbering* toolbar appears.

Customizing toolbars

You can customize toolbars in several ways, including choosing which icons are visible and locking the position of a docked toolbar. You can also add icons and create new toolbars, as described in *Chapter 14 Customizing LibreOffice*. To access the customization options for a toolbar, right-click in an empty space between the icons on a toolbar to open a context menu as follows:

- To show or hide icons defined for the selected toolbar, click **Visible Buttons**. Visible icons on a toolbar are indicated by an outline around the icon (Figure 6) or by a check mark beside the icon, depending on your operating system. Select or deselect icons to hide or show them on the toolbar.
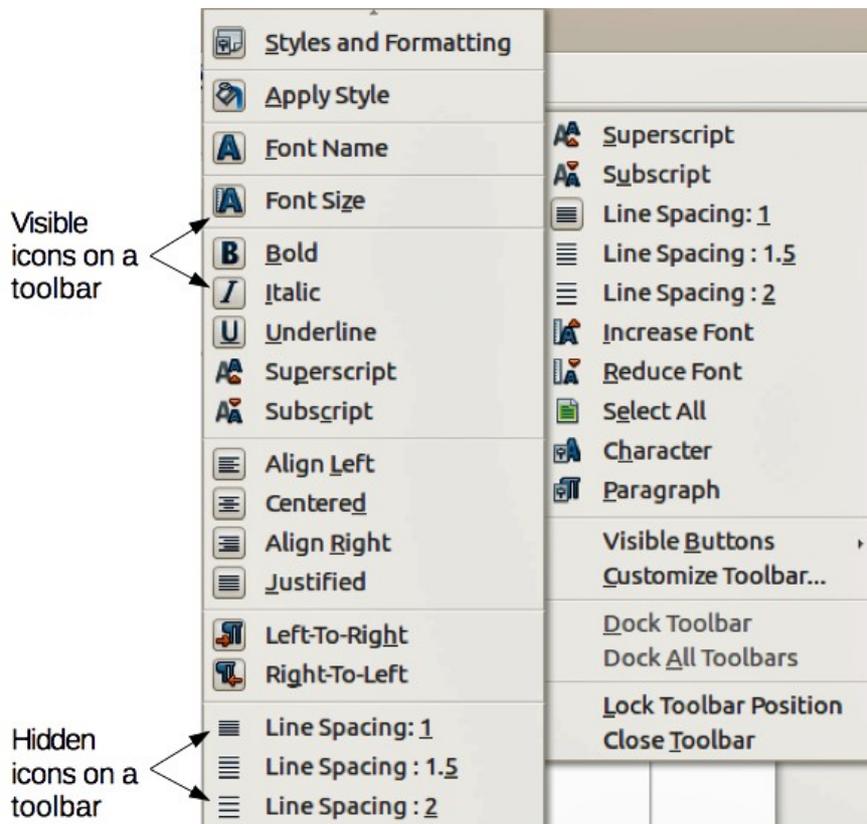
Figure 6: Selection of visible toolbar icons

- Click **Customize Toolbar** to open the Customize dialog; See *Chapter 14 Customizing LibreOffice* for more information.

- Click **Dock Toolbar** to dock the selected floating toolbar. By default, a toolbar will dock at the top of the workspace. You can reposition the toolbar to a different docked position. See "Moving toolbars" on page 22.

- Click **Dock All Toolbars** to dock all floating toolbars. By default, toolbars will dock at the top of the workspace. You can reposition the toolbars to different docked positions. See "Moving toolbars" on page 22.

- Click **Lock Toolbar Position** to lock a docked toolbar into its docked position.

- Click **Close Toolbar** to close the selected toolbar.

Context menus

Context menus provide quick access to many menu functions. They are opened by right-clicking on a paragraph, graphic, or other object. When a context menu opens, the functions or options available will depend on the object that has been selected. A context menu can be the easiest way to reach a function, especially if you are not sure where the function is located in the menus or toolbars.

Status bar

The status bar is located at the bottom of the workspace. It provides information about the document and convenient ways to quickly change some features. It is similar in Writer, Calc, Impress, and Draw, but each LibreOffice component includes some component-specific items. An example of the Writer status bar is shown in Figure 7.
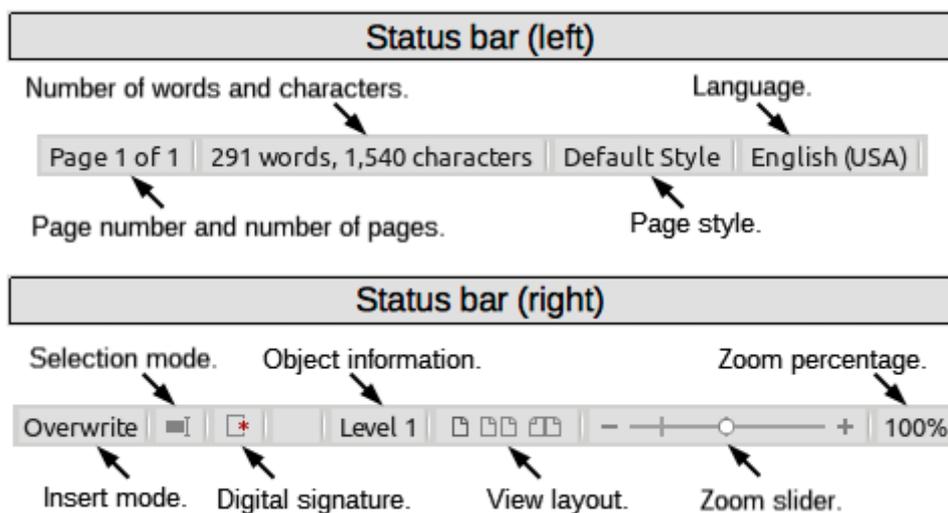
Figure 7: Example status bar from Writer

Page, sheet, or slide number and page count
Shows the current page, sheet, or slide number and the total number of pages, sheets, or slides in the document. Double-click on this field to open the Navigator. Other uses of this field depend on the LibreOffice component.

Words and characters
Shows the total number of words and characters in the document or in the selection.

Page style or slide design

Shows the current page style or slide design. To edit the current page style or slide design, double-click on this field. To choose a different page style or slide design, right-click on this field and select from the list that pops up.

Language

Shows the current language of the text at the current cursor position.

Insert mode

Shows the type of insert mode the program is in. This field is blank if the program is in Insert mode. Each time the *Ins* key is pressed, or this field is clicked, the mode toggles between Insert and Overwrite.

Selection mode

Click to choose different selection modes. The icon does not change, but when you hover the mouse pointer over this field, a tooltip indicates which mode is active.

Unsaved changes

The icon shown here is different when changes to the document have not been saved.

Digital signature

If the document has been digitally signed, an icon shows here. You can click the icon to sign the document, or to view the existing certificate.

Object information

Displays information relevant to the position of the cursor or the selected element of the document.

View layout

Select between Single-page view, Multiple-page view, and Book view to change how your document is displayed.

Zoom slider

Drag the Zoom slider, or click on the **+** and **–** signs to change the view magnification of your document.

Zoom percentage

Indicates the magnification level of the document. Right-click on the percentage figure to open a list of magnification values from which to choose. Double-clicking on this percentage figure opens the **Zoom & View Layout** dialog.

Sidebar

To activate the Sidebar, select **View > Sidebar** from the Menu bar. The sidebar (Figure 8) is located on the right side of the edit views of Writer, Calc, Impress, and Draw. It contains one or more panels, based on the current document context. Panels are organized into decks. A tab bar on the right side of the sidebar allows you to switch between different decks.

All components contain the Properties, Styles and Formatting, Gallery, and Navigator decks. Some components have additional decks, such as Master Pages, Custom Animation, and Slide Transition for Impress; Manage Changes for Writer; and Functions for Calc.

A panel is like a combination of a toolbar and a dialog. For example, you can freely mix working in the main edit window to enter text and use the Properties panel in the sidebar to change text attributes.

Tool bars and sidebar panels share many functions. For example, the buttons for making text bold or italic exist in both the Formatting toolbar and the Properties panel.

For more detail, see the Sidebar explanation in the relevant LibreOffice component's user guide.

To hide the Sidebar, click on the gray **Hide** button on the left. Click on the same button to show the Sidebar again.

To undock the Sidebar and make it floating, and to dock a floating Sidebar, use the drop-down list at the top of the tab bar (see Figure 9). From the same list you can choose which items to include in the Sidebar.
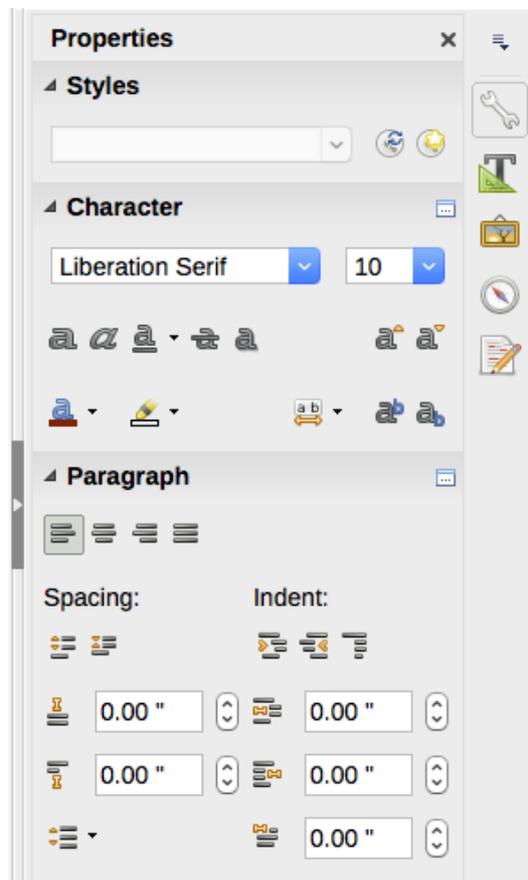
Figure 8: Properties panel of Sidebar in Writer
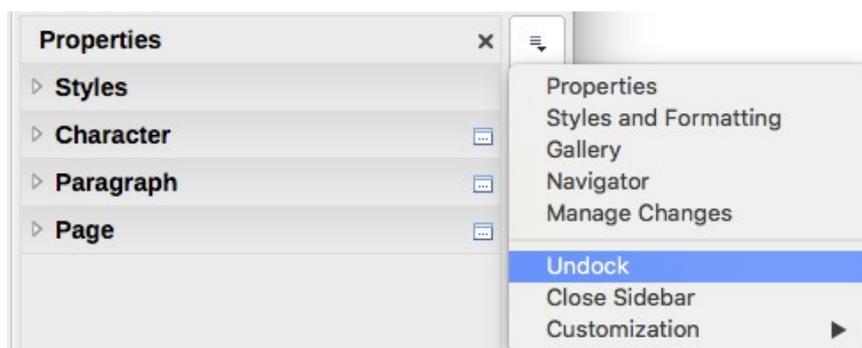
Figure 9: Floating (undocking) or docking the Sidebar

Starting new documents

You can start a new, blank document in LibreOffice in several ways.

When LibreOffice is open but no document is open, the Start Center (Figure 2 on page 19) is shown. Click one of the icons to open a new document of that type, or click the **Templates** icon to start a new document using a template.

You can also start a new document in one of the following ways:

- Use **File > New** on the Menu bar and select the type of document from the context menu.

- Use the keyboard shortcut *Ctrl+N* to create a new document. The type of document created depends on which LibreOffice component is open and active. For example, if Calc is open and active, a new spreadsheet is created.

- Use **File > Wizards** on the Menu bar and select the type of document from the context menu.

- If a document is already open in LibreOffice, click the **New** icon on the Standard toolbar and a new document of the same type is created in a new window. For example, if Calc is open and active, a new spreadsheet is created. The New icon changes depending on which component of LibreOffice is open.

- If a document is already open in LibreOffice, click on the small triangle to the right of the **New** icon on the Standard toolbar and select the type of document from the context menu that opens.

- On Windows or Linux, use the Quickstarter feature included with LibreOffice. See "Quickstarter" on page 20 for more information.

Note

If all documents are closed without closing LibreOffice, then the Start Center will be displayed.

Opening existing documents

You can also open an existing document in one of the following ways:

- When no document is open, click **Open File** in the Start Center to reach the Open dialog.

- Go to **File > Open** on the Menu bar the reach the Open dialog.

- Use the keyboard shortcut *Ctrl+O* to reach the Open dialog.

- If a document is already open, click the **Open** icon on the Standard toolbar and select from a list of available documents from the Open dialog.

- Click the small triangle to the right of the **Open** icon and select from a list of recently opened documents.

- When no document is open, double-click on a thumbnail of recently opened documents displayed in the Start Center. You can scroll up or down in the Start Center to locate a recently opened document.

When using the Open dialog, navigate to the folder you want and select the file you want, and then click **Open**. If a document is already open in LibreOffice, the second document opens in a new window.

In the Open dialog, you can reduce the list of files by selecting the type of file you are looking for. For example, if you choose **Text documents** as the file type, you will only see documents Writer can open (including `.odt, .doc, .txt`); if you choose **Spreadsheets**, you will see `.ods, .xls,` and other files that Calc opens.

You can also open an existing document that is in a format that LibreOffice recognizes by double-clicking on the file icon on the desktop or in a file manager such as Windows Explorer. LibreOffice has to be associated with file types that are not ODF files for the appropriate LibreOffice component to open.

> 🟢 **Note**
>
> You can choose whether to use the LibreOffice Open/Save dialogs or the ones provided by your computer's operating system. See "Open and Save As dialogs" on page 30 for more information. This book uses the LibreOffice dialogs in illustrations.

Saving documents

You can save documents as follows:

- **Save** command – use if you are keeping the document, its current filename and location.
- **Save As** command – use if you want to create a new document, or change the filename and/or file format, or save the file in a different location on your computer.
- Password protection – use if you want to restrict who can open and read the document, or open and edit the document.

Save command

To save a document if you are keeping the document's current filename and location, do one of the following:

- Use the keyboard shortcut *Ctrl+S*.
- Go to **File > Save** on the Menu bar.
- Click the **Save icon** on the Standard toolbar.

Using the Save command will overwrite the last saved version of the file.

Save As command
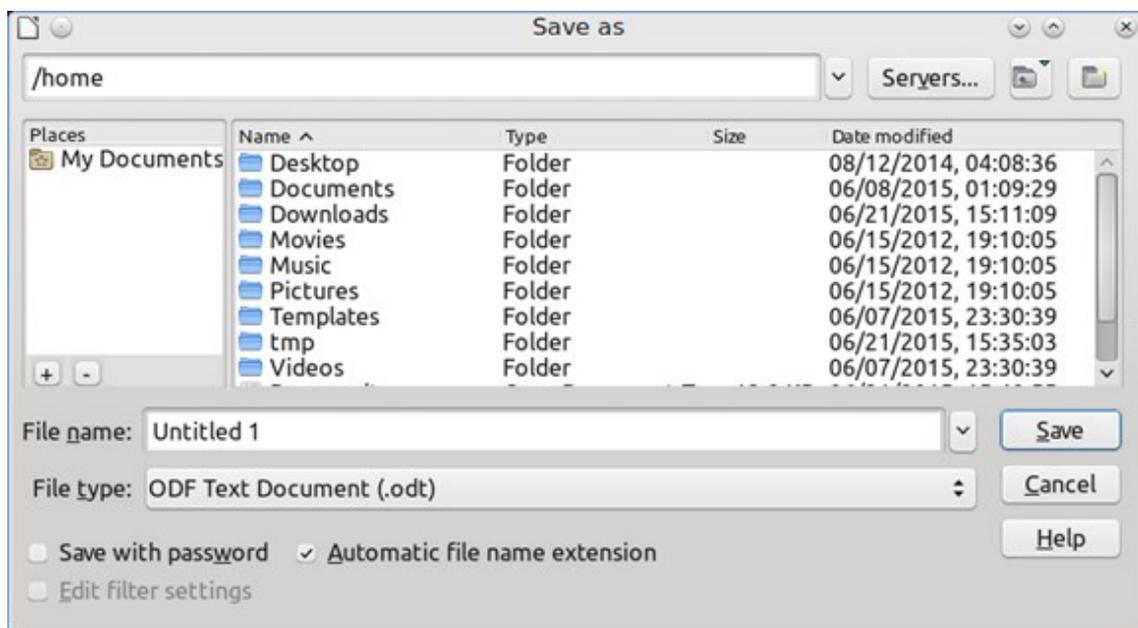
Figure 10: Example of LibreOffice Save As dialog

To save a document if you want to create a new document, or change the filename and/or file format, or save the file in a different location on your computer:

- Use the keyboard shortcut *Ctrl+Shift+S*.

- Go to **File > Save As** on the Menu bar.

When the **Save As** dialog (Figure 10) or **Save** dialog opens, enter the file name, change the file type (if applicable), navigate to a new location (if applicable), and click **Save**.

The dialog that opens when using the **Save As** command depends on the options that have been set in LibreOffice. See "Open and Save As dialogs" on page 30 for more information.

Password protection

To protect a document and restrict who can open and read the document, or open and edit the document, you have to use password protection.

1) Using the Save As command above, select the **Save with password** option in the Save As dialog or Save dialog.

2) Click **Save** and the **Set Password** dialog opens (Figure 11).

3) In *File Encryption Password*, enter a password to open the document and then enter the same password as confirmation.

4) To restrict who can edit the document, click **Options**.

5) In *File Sharing Password*, select **Open file read-only**, enter a password to allow editing, and then enter the same password as confirmation.

6) Click **OK** and the dialog closes. If the passwords match, the document is saved password-protected. If the passwords do not match, you receive an error message.

Figure 11: Set Password dialog

Caution

LibreOffice uses a very strong encryption mechanism that makes it almost impossible to recover the contents of a document if you lose or forget the password.

Changing the password

When a document is password-protected, you can change the password while the document is open. Go to **File > Properties > General** on the Menu bar and click the **Change Password** button. This opens the Set Password dialog where you can enter a new password.

Saving documents automatically

LibreOffice can save files automatically as part of the **AutoRecovery** feature. Automatic saving, like manual saving, overwrites the last saved state of the file.

To set up automatic file saving:

1) Go to **Tools > Options > Load/Save > General** on the Menu bar.

2) Select **Save AutoRecovery information every** and set the time interval.

3) Click **OK**.

Renaming and deleting files

You can rename or delete files within the LibreOffice dialogs, just as you can in a file manager. Select a file and then right click to open a context menu. Select either **Delete** or **Rename**, as appropriate. However, you cannot copy or paste files within the dialogs.

Open and Save As dialogs

You can choose whether to use the LibreOffice Open and Save As dialogs or the ones provided by your operating system. This book uses the LibreOffice dialogs in illustrations.

- To use the operating system dialogs for saving or opening files, go to **Tools > Options > LibreOffice > General** and uncheck the option **Use LibreOffice dialogs**.

- To use LibreOffice dialogs for saving or opening files, go to **Tools > Options > LibreOffice > General** and check the option **Use LibreOffice dialogs**.

An example of a LibreOffice dialog is shown in Figure 10 on page 28. The three icons in the top right of these dialogs are as follows:

- **Server** – a dialog opens allowing you to connect to a network server if the file you want is not located on your computer.

- **Up One Level** – moves up one folder in the folder hierarchy. Click and hold the mouse button on this icon to display a drop down a list of higher level folders. Move the cursor over a higher level folder and release the mouse button to navigate to that folder

- **Create New Folder** – creates a new sub-folder in the folder that is displayed in the dialog.

Use the **File type** field to specify the type of file to be opened or the format of the file to be saved.

The **Read-only** option on the Open dialog opens the file for reading and printing only. Most of the icons and most menu options are disabled on the toolbars. The **Edit File** icon becomes active on the Standard toolbar. Click on this icon to open the file for editing.

Using the Navigator

The LibreOffice Navigator lists objects contained within a document, collected into categories. For example, in Writer it shows Headings, Tables, Text frames, Comments, Graphics, Bookmarks, and other items, as shown in Figure 12. In Calc it shows Sheets, Range Names, Database Ranges,

Graphics, Drawing Objects, and other items. In Impress and Draw it shows Slides, Pictures, and other items.

To open the Navigator, click the **Navigator** icon on the Standard toolbar, or press the *F5* key, or go to **View > Navigator** on the Menu bar, or click the Navigator icon in the Sidebar.

In a default installation of LibreOffice, the Navigator is part of the Sidebar.

Click the marker (+ or triangle) by any of the categories to display the list of objects in that category.

The Navigator provides several convenient ways to move around a document and find items in it:

- When a category is showing the list of objects in it, double-click on an object to jump directly to that object's location in the document.

- Objects are much easier to find if you have given them recognizable names when creating them, instead of keeping the default names, for example Sheet1, Table1, Table2, and so on. The default names may not correspond to the actual position of the object in the document.

- Each Navigator in the individual LibreOffice components has a different range of functions. These functions are further explained in the user guide for each LibreOffice component.
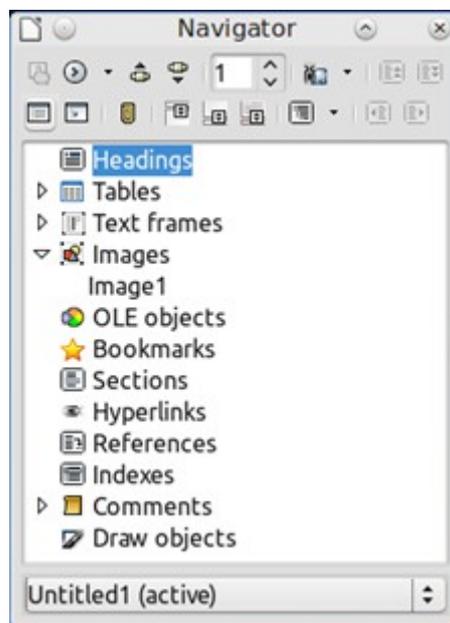
Figure 12: Navigator in Writer

Undoing and redoing changes

To undo the most recent change in a document, use the keyboard shortcut *Ctrl+Z,* or click the **Undo** icon on the Standard toolbar, or go to **Edit > Undo** on the Menu bar. Click the small triangle to the right of the **Undo** icon to get a list of all the changes that can be undone. You can select multiple changes and undo them at the same time.

After changes have been undone, you can redo changes. To redo a change use the keyboard shortcut *Ctrl+Y*, or click the **Redo** icon, or go to **Edit > Redo** on the Menu bar. As with Undo, click on the triangle to the right of the arrow to get a list of the changes that can be reapplied.

To modify the number of changes LibreOffice remembers, go to **Tools > Options > LibreOffice > Memory** on the Menu bar. In the Undo section increase or decrease the **Number of steps**. Be aware that asking LibreOffice to remember more changes consumes more computer memory.

Closing a document

If only one document is open and you want to close that document, go to **File > Close** on the Menu bar or click on the X on the right or left end of the Menu bar. On Windows and Linux, the document closes and the LibreOffice Start Center opens. On Mac OS X, the document closes and only the Menu bar remains at the top of the screen.

If more than one document is open and you want to close one of them, go to **File > Close** on the Menu bar or click on the X on the title bar of that document's window. The X may be located on either the right or left end of the title bar.

If the document has not been saved since the last change, a message box is displayed. Choose whether to save or discard your changes.

Caution

> Not saving your document could result in the loss of recently made changes, or worse still, the entire file.

Closing LibreOffice

To close LibreOffice completely, go to **File > Exit** on the Menu bar in Windows and Linux operating systems. In a Mac operating system, go to **LibreOffice > Quit LibreOffice** on the Menu bar.

When you close the last document using the X on the title bar of the window, then LibreOffice will close completely. A Mac operating system does not have this function; instead, you need to use to **LibreOffice > Quit LibreOffice**.

You can also use a keyboard shortcut as follows:

- In Windows and Linux – *Ctrl+Q*
- In Mac OS X – *Command ⌘+Q*

If any documents have not been saved since the last change, a message box is displayed. Choose whether to save or discard your changes.

Chapter 2
Setting up LibreOffice

Choosing Options to Suit the Way You Work

Choosing options for all of LibreOffice

This section covers some of the settings that apply to all the components of LibreOffice. For information on settings not discussed here, see the Help.

Click **Tools > Options**. The list in the left-hand box of the Options – LibreOffice dialog varies depending on which component of LibreOffice is open. The illustrations in this chapter show the list as it appears when a Writer document is open.

Click the marker (+ or triangle) by LibreOffice on the left-hand side. A list of pages drops down. Selecting an item in the list causes the right-hand side of the dialog to display the relevant page.
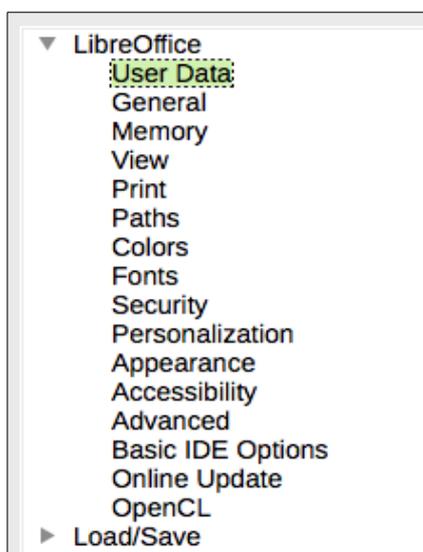
Figure 13: LibreOffice options

🟢 **Note**

> The **Reset** button, located in the lower right of the full Options dialog, has the same effect on all pages of the dialog. It resets the options to the values that were in place when you opened the dialog.

If you are using a version of LibreOffice other than US English, some field labels may be different from those shown in the illustrations.

User Data options

Because LibreOffice can use the name or initials stored in the *LibreOffice – User Data* page for several things, including document properties (created by and last edited by information) and the name of the author of comments and changes, you will want to ensure that the correct information appears here.

Fill in the form (not shown here), or amend or delete any existing information. If you do not want user data to be part of the document's properties, clear the box at the bottom.

General options

The options on the *LibreOffice – General* page are described below Figure 14.
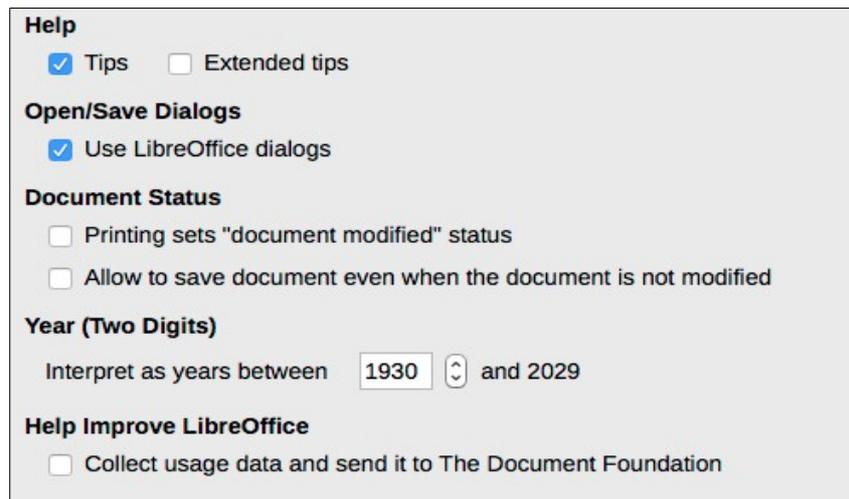
Figure 14: Setting general options for LibreOffice

Help – Tips

When *Tips* is active, one or two words will appear when you hold the mouse pointer over an icon or field, without clicking.

Help – Extended tips

When *Extended tips* is active, a brief description of the function of a particular icon or menu command or a field on a dialog appears when you hold the mouse pointer over that item.

Open/Save Dialogs – Use LibreOffice dialogs

To use the standard Open and Save dialogs for your operating system, deselect the **Use LibreOffice dialogs** option. When this option is selected, the Open and Save dialogs supplied with LibreOffice will be used. See Chapter 1, Introducing LibreOffice, for more about the LibreOffice Open and Save dialogs. This book uses the LibreOffice Open and Save dialogs in illustrations.

Document status – Printing sets "document modified" status

If this option is selected, then the next time you close the document after printing, the print date is recorded in the document properties as a change and you will be prompted to save the document again, even if you did not make any other changes.

Document status – Allow to save document even when the document is not modified

Normally when a document has not been modified, the **File > Save** menu option and the Save button on the Standard toolbar are disabled and the keyboard shortcut *Ctrl+S* has no effect. Select this option to allow documents to be saved even when they have not been modified.

Year (two digits)

Specifies how two-digit years are interpreted. For example, if the two-digit year is set to 1930, and you enter a date of 1/1/30 or later into your document, the date is interpreted as 1/1/1930 or later. An "earlier" date is interpreted as being in the following century; that is, 1/1/20 is interpreted as 1/1/2020.

Memory options

The options on the *LibreOffice – Memory* page control how LibreOffice uses your computer's memory and how much memory it requires. Before changing them, you may wish to consider the following points:

- More memory can make LibreOffice faster and more convenient (for example, more undo steps require more memory); but the trade-off is less memory available for other applications and you could run out of memory altogether.

- If your documents contain a lot of objects such as images, or the objects are large, LibreOffice's performance may improve if you increase the memory for LibreOffice or the memory per object. If you find that objects seem to disappear from a document that contains a lot of them, increase the number of objects in the cache. (The objects are still in the file even if you cannot see them on screen.)

- To load the Quickstarter when you start your computer, select the option near the bottom of the dialog. This makes LibreOffice start faster; the trade-off is LibreOffice uses some memory even when not being used. This option is called **Enable systray quickstarter** on Linux. It is not available on Mac OS X or on systems where the Quickstarter module has not been installed.
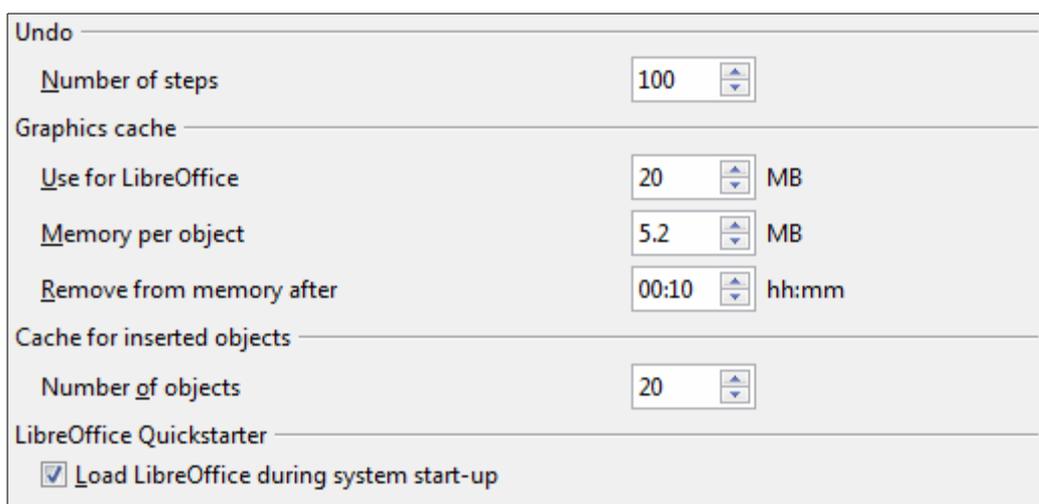
Figure 15: Choosing Memory options for the LibreOffice applications

View options

The options on the *LibreOffice – View* page affect the way the document window looks and behaves. Some of these options are described below. Set them to suit your personal preferences.

User Interface – Scaling
If the text in the help files or on the menus of the LibreOffice user interface is too small or too large, you can change it by specifying a scaling factor. Sometimes a change here can have unexpected results, depending on the screen fonts available on your system. However, it does not affect the actual font size of the text in your documents.

User Interface – Icon size and style
The first box specifies the display size of toolbar icons (Automatic, Small, or Large). The Automatic icon size option uses the setting for your operating system. The second box specifies the icon style (theme); here the Automatic option uses an icon set compatible with your operating system and choice of desktop: for example, KDE or Gnome on Linux.

User interface – Screen font anti-aliasing
(Not available in Windows.) Select this option to smooth the screen appearance of text. Enter the smallest font size to apply anti-aliasing.
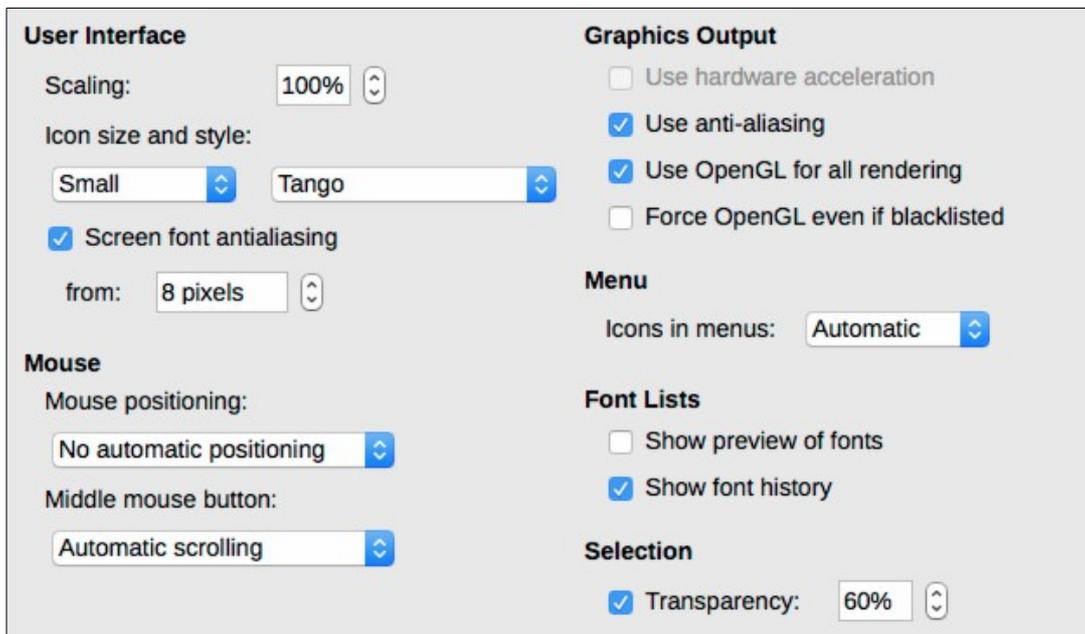
Figure 16: Choosing View options for LibreOffice applications

Mouse positioning
Specifies if and how the mouse pointer will be positioned in newly opened dialogs.

Middle mouse button
Defines the function of the middle mouse button.

- **Automatic scrolling** – dragging while pressing the middle mouse button shifts the view.
- **Paste clipboard** – pressing the middle mouse button inserts the contents of the "Selection clipboard" at the cursor position.

The "Selection clipboard" is independent of the normal clipboard that you use by **Edit > Copy/Cut/Paste** or their respective keyboard shortcuts. Clipboard and "Selection clipboard" can contain different contents at the same time.

Function	*Clipboard*	*Selection clipboard*
Copy content	**Edit > Copy** *Ctrl+C*	Select text, table, or object.
Paste content	**Edit > Paste** *Ctrl+V* pastes at the cursor position.	Clicking the middle mouse button pastes at the mouse pointer position.
Pasting into another document	No effect on the clipboard contents.	The last marked selection is the content of the selection clipboard.

Graphics output – Use hardware acceleration
Directly accesses hardware features of the graphical display adapter to improve the screen display. Not supported on all operating systems and LibreOffice distributions.

Graphics output – Use anti-aliasing
Enables and disables anti-aliasing, which makes the display of most graphical objects look smoother and with fewer artifacts. Not supported on all operating systems and LibreOffice distributions.

Tip

Press *Shift+Ctrl+R* to restore or refresh the view of the current document after changing the anti-aliasing settings, to see the effect.

Graphics output – Use OpenGL for all rendering

Enables and disables the use of the 3D graphics language OpenGL. Not supported on all operating systems and LibreOffice distributions.

Menu – icons in menus

Causes icons as well as words to be visible in menus.

Font Lists – Show preview of fonts

Causes the font list to look like Figure 17, Left, with the font names shown as an example of the font; with the option deselected, the font list shows only the font names, not their formatting (Figure 17, Right). The fonts you will see listed are those that are installed on your system.

Fonts which are tuned for use with a specific script, such as Arabic, Hebrew, Malayalam, and so on, now show an additional preview of some sample text in the target script.
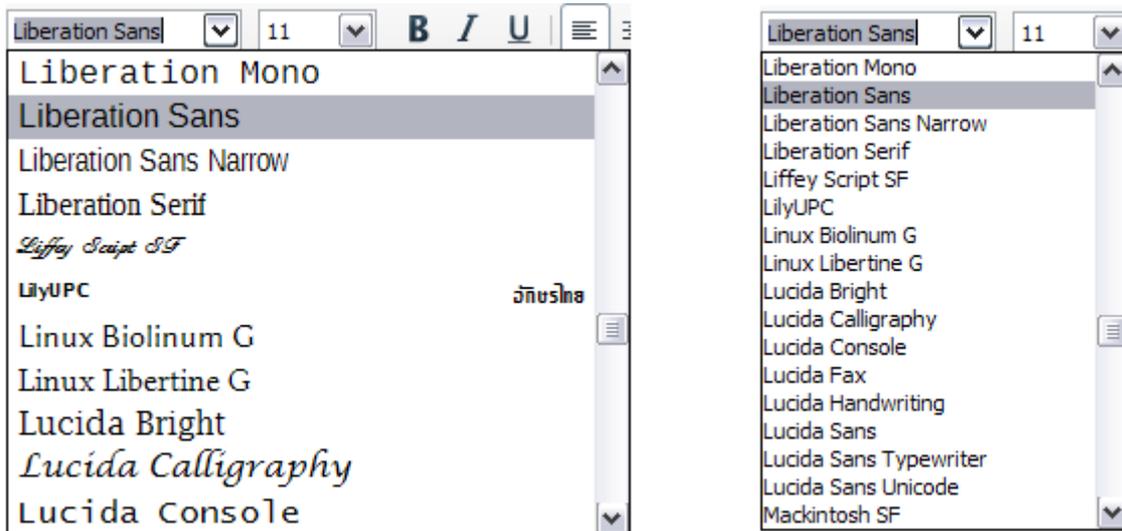
Figure 17: Font list (Left) with preview; (Right) without preview

Font Lists – Show font history

Causes the last five fonts you have assigned to the current document to be displayed at the top of the font list. Otherwise fonts are shown in alphabetical order.

Selection – Transparency

Determines the appearance of selected text or graphics, which appear on a shaded background. To make the shaded background more or less dark, increase or decrease the Transparency setting.

If you prefer selected material to appear in reversed color (typically white text on a black background), deselect this option.

Print options

On the *LibreOffice – Print* page, set the print options to suit your default printer and your most common printing method. Most of these options should be self-explanatory.

The option **PDF as Standard Print Job Format** is not available on Windows. Select this option to change the internal print job format from a Postscript document description to a PDF description. This format has a number of advantages over Postscript. For more information, see http://www.linuxfoundation.org/collaborate/workgroups/openprinting/pdf_as_standard_print_job_format

Deselecting this option reverts to the Postscript document workflow system.
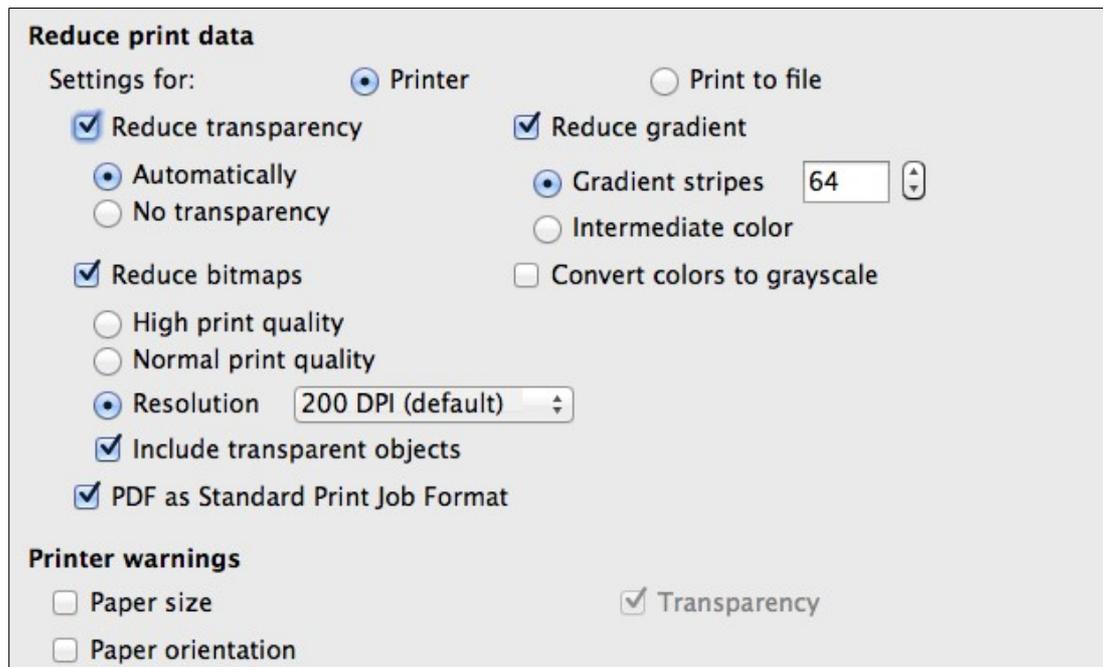
Figure 18: Choosing general printing options to apply to all LibreOffice components

In the *Printer warnings* section near the bottom of the page, you can choose whether to be warned if the paper size or orientation specified in your document does not match the paper size or orientation available for your printer. Having these warnings turned on can be quite helpful, particularly if you work with documents produced by people in other countries where the standard paper size is different from yours.

> ▶ **Tip**
>
> If your printouts are incorrectly placed on the page or chopped off at the top, bottom, or sides, or the printer is refusing to print, the most likely cause is page size incompatibility.

Paths options

On the *LibreOffice – Paths* page, you can change the location of files associated with, or used by, LibreOffice to suit your working situation. In a Windows system, for example, you might want to store documents by default somewhere other than My Documents.

To make changes, select an item in the list shown in Figure 19 and click **Edit**. On the Select Path dialog (not shown; may also be titled Edit Paths), add or delete folders as required, and then click **OK** to return to the Options dialog. Note that some items can have at least two paths listed: one to a shared folder (which might be on a network) and one to a user-specific folder (normally on the user's personal computer).

> ▶ **Tip**
>
> You can use the entries on the *LibreOffice – Paths* page to compile a list of files, such as those containing AutoText, that you need to back up or copy to another computer.

Figure 19: Viewing the paths of files used by LibreOffice

Color options

On the *LibreOffice – Colors* page, you can specify colors to use in LibreOffice documents. You can select a color from a color table, edit an existing color, and define new colors. These colors are stored in your color palette and are then available in all components of LibreOffice.

To modify a color:

1) Select the color to modify from the list or the color table.

2) Enter the new values that define the color. You can choose the RGB (Red, Green, Blue) or the CMYK (Cyan, Magenta, Yellow, Black) system to specify your color. The changed color appears in the lower of the two color preview boxes at the top.

3) Modify the *Name* as required.

4) Click the **Modify** button. The newly defined color is now listed in the Color table.
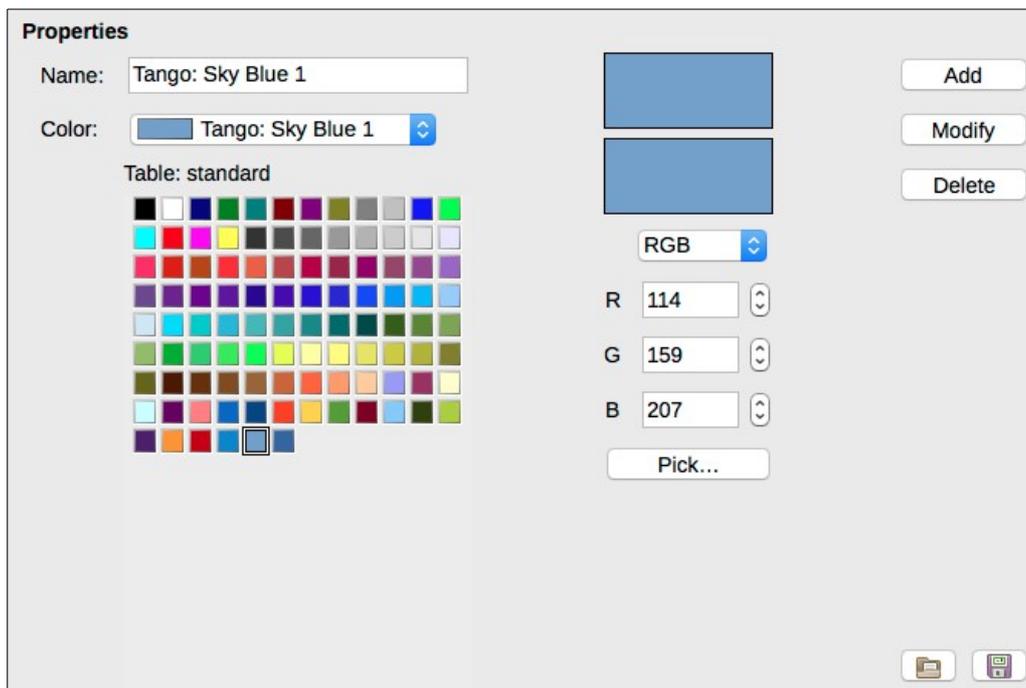
Figure 20: Defining colors to use in color palettes in LibreOffice

Alternatively, click the **Pick** button to open the Pick a Color dialog, shown in Figure 21. Here you can select a color from the window on the left, or you can enter values on the right using your choice of RGB, CMYK, or HSB (Hue, Saturation and Brightness) values.
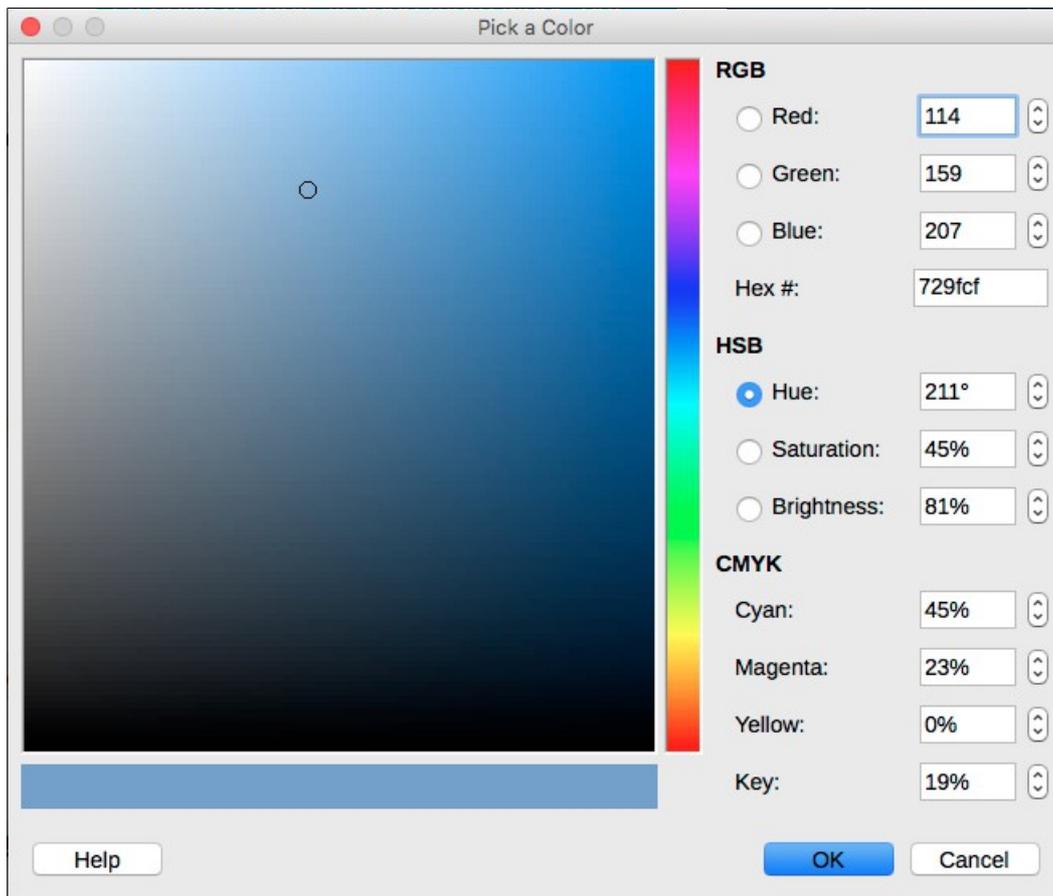
Figure 21: Editing colors

The color window on the left is linked directly with the color input fields on the right; as you choose a color in the window, the numbers change accordingly. The color field at the lower left shows the value of the selected color on the left and the currently set value from the color value fields on the right.

Modify the color components as required and click **OK** to exit the dialog. The newly defined color now appears in the lower of the color preview boxes shown in Figure 20. Type a name for this color in the *Name* box, then click the **Add** button. A small box showing the new color is added to the Color table.

Another way to define or alter colors is through the Colors page of the Area dialog, where you can also save and load palettes, a feature that is not possible here. In Calc, draw a temporary draw object and use the context menu of this object to open the Area dialog. If you load a palette in one component of LibreOffice, it is only active in that component; the other components keep their own palettes.

Fonts options

You can define replacements for any fonts that might appear in your documents. If you receive from someone else a document containing fonts that you do not have on your system, LibreOffice will substitute fonts for those it does not find. You might prefer to specify a different font from the one that the program chooses.

🟢 **Note**

These choices do **not** affect the default font for your documents. To do that, you need to change the default template for documents, as described in Chapter 3.

On the *LibreOffice – Fonts* page:

1) Select the **Apply replacement table** option.

2) Select or type the name of the font to be replaced in the **Font** box. (If you do not have this font on your system, it will not appear in the drop-down list in this box, so you need to type it in.)

3) In the **Replace with** box, select a suitable font from the drop-down list of fonts installed on your computer.
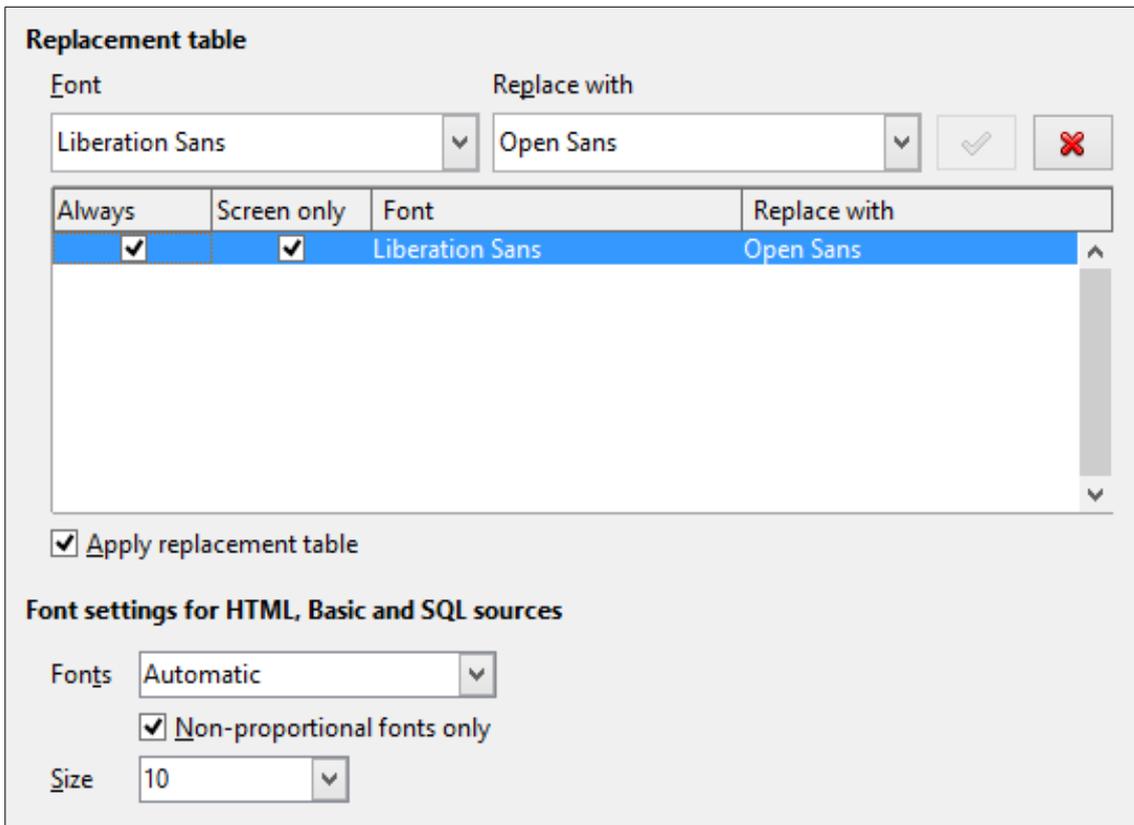
Figure 22: Defining a font to be substituted for another font

4) The check mark to the right of the **Replace with** box turns green. Click on this check mark. A row of information now appears in the larger box below the input boxes. Select **Always** to replace the font, even if the original font is installed on your system. Select **Screen only** to replace the screen font only and never replace the font for printing. The results of combining these selections are given in Table 2.

5) In the bottom section of the page, you can change the typeface and size of the font used to display source code such as HTML and Basic (in macros).

Table 2. Font substitution replacement actions

Always checkbox	Screen only checkbox	Replacement action
checked	blank	Font replacement on screen and when printing, whether the font is installed or not.
checked	checked	Font replacement only on screen, whether the font is installed or not.
blank	checked	Font replacement only on screen, but only if font is not available.
blank	blank	Font replacement on screen and when printing, but only if font is not available.

Security options

Use the *LibreOffice – Security* page to choose security options for saving documents and for opening documents that contain macros.
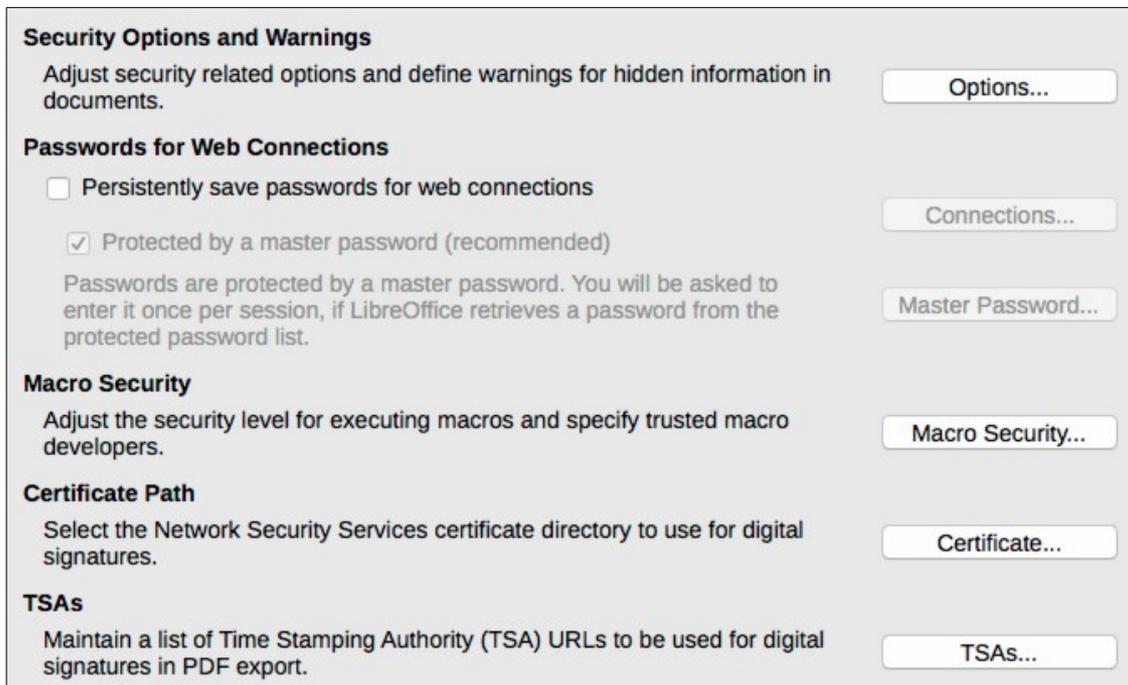
Figure 23: Choosing security options for opening and saving documents

Security options and warnings
> If you record changes, save multiple versions, or include hidden information or notes in your documents, and you do not want some of the recipients to see that information, you can set warnings to remind you to remove it, or you can have LibreOffice remove some of it automatically. Note that (unless removed) much of this information is retained in a file whether the file is in LibreOffice's default OpenDocument format, or has been saved to other formats, including PDF.

> Click the **Options** button to open a separate dialog with specific choices (Figure 25). See "Security options and warnings" on page 44.

Macro security
> Click the **Macro Security** button to open the Macro Security dialog (not shown here), where you can adjust the security level for executing macros and specify trusted sources.

Certificate Path
> Users can digitally sign documents using LibreOffice. A digital signature requires a personal signing certificate. Most operating systems can generate a self-signed certificate. However, a personal certificate issued by an outside agency (after verifying an individual's identity) has a higher degree of trust associated with it than does a self-signed certificate. LibreOffice does not provide a secure method of storing these certificates, but it can access certificates that have been saved using other programs. Click the **Certificate** button and select which certificate store to use.

🟢 **Note**

> The Certificate Path option appears only on Linux and Mac systems. On Windows, LibreOffice uses the default Windows location for storing and retrieving certificates.

Passwords for web connections

You can enter a master password to enable easy access to websites that require a user name and password. If you select the **Persistently save passwords for web connections** option, the Set Master Password dialog opens (Figure 24). LibreOffice will securely store all passwords that you use to access files from web servers. You can retrieve the passwords from the list after you enter the master password.
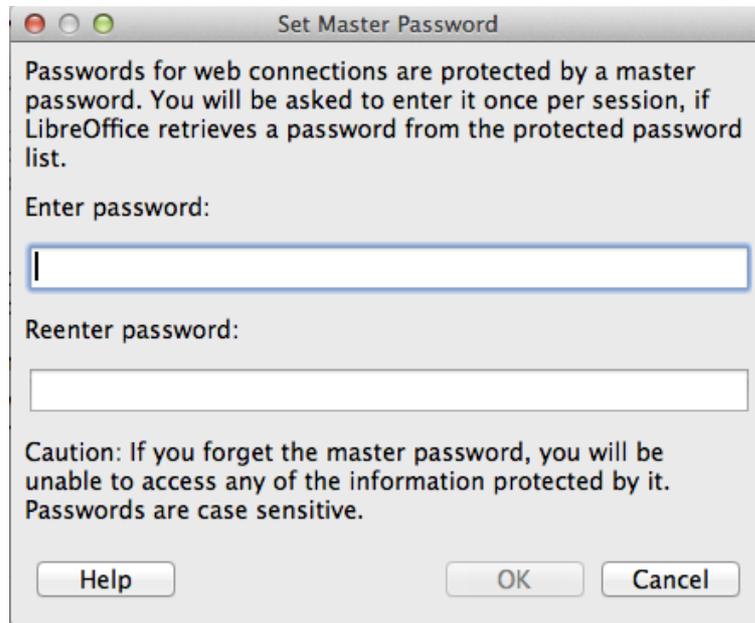
Figure 24: Set Master Password dialog for web connections

Security options and warnings

The following options are on the Security options and warnings dialog (Figure 25).
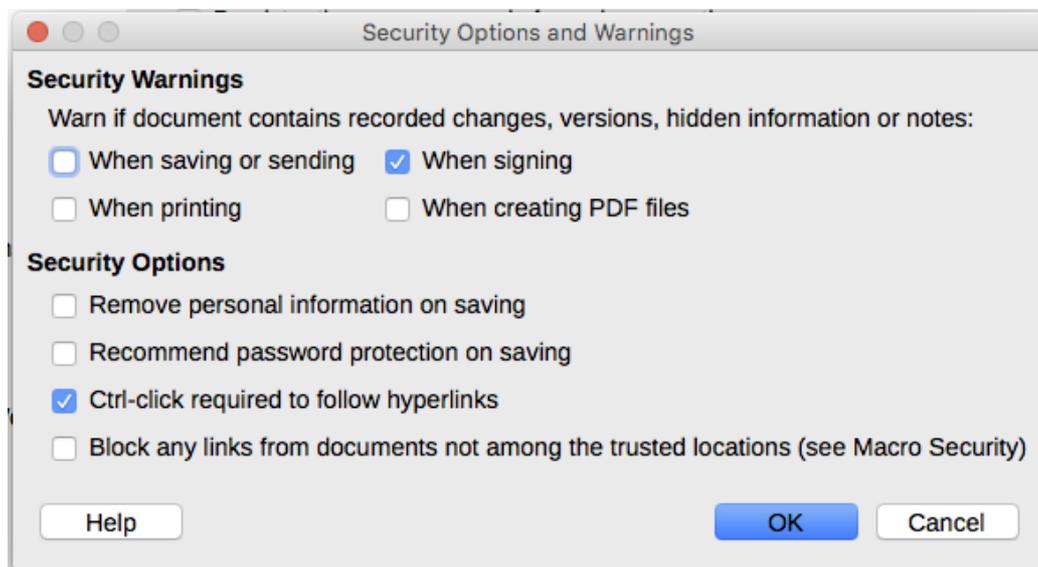
Figure 25: Security options and warnings dialog

Remove personal information on saving

Select this option to always remove user data from the file properties when saving the file. To manually remove personal information from specific documents, deselect this option.

Ctrl-click required to follow hyperlinks

> The default behavior in LibreOffice is to *Ctrl+click* on a hyperlink to open the linked document. Many people find creation and editing of documents easier when accidental clicks on links do not activate the links. To set LibreOffice to activate hyperlinks using an ordinary click, deselect this option.

> The other options on this dialog should be self-explanatory.

Personalization

You can customize the overall appearance of LibreOffice with themes designed for Mozilla Firefox.

On the *LibreOffice – Personalization* page, select **Own Theme** and then click **Select Theme.** Another dialog opens. Type a search term, click **Search**, and wait while theme thumbnails load. Select one and click **OK** to apply the theme. After a brief pause the appearance of LibreOffice will refresh and reflect the selected theme. An example is shown in Figure 27. For full details about themes, visit the Mozilla website: https://www.https://addons.mozilla.org/en-US/firefox/themes/
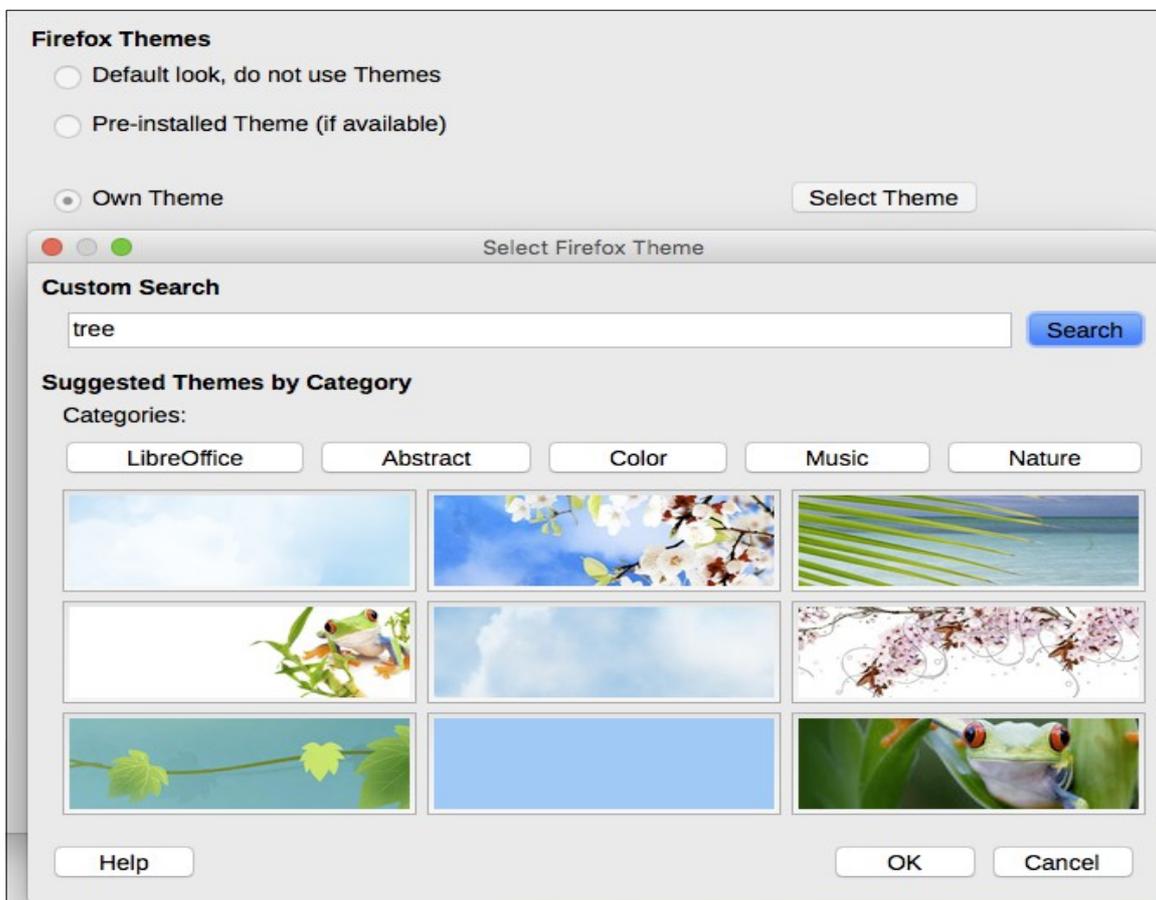
Figure 26: Personalization dialogs

Figure 27: Sample personalized theme

Appearance options

Writing, editing, and (especially) page layout are often easier when you can see the page margins (text boundaries), the boundaries of tables and sections (in Writer documents), page breaks in Calc, grid lines in Draw or Writer, and other features. In addition, you might prefer to use colors that are different from LibreOffice's defaults for such items as comment indicators or field shadings.

On the *LibreOffice – Appearance* page (Figure 28), you can specify which items are visible and the colors used to display various items.

- To show or hide items such as text boundaries, select or deselect the options next to the names of the items.

- To change the default colors for items, click the down-arrow in the *Color Setting* column by the name of the item and select a color from the list box. Note that you can change the list of available colors as described in "Color options" on page 40.

- To save your color changes as a color scheme, click **Save**, type a name in the *Scheme* box, and then click **OK**.
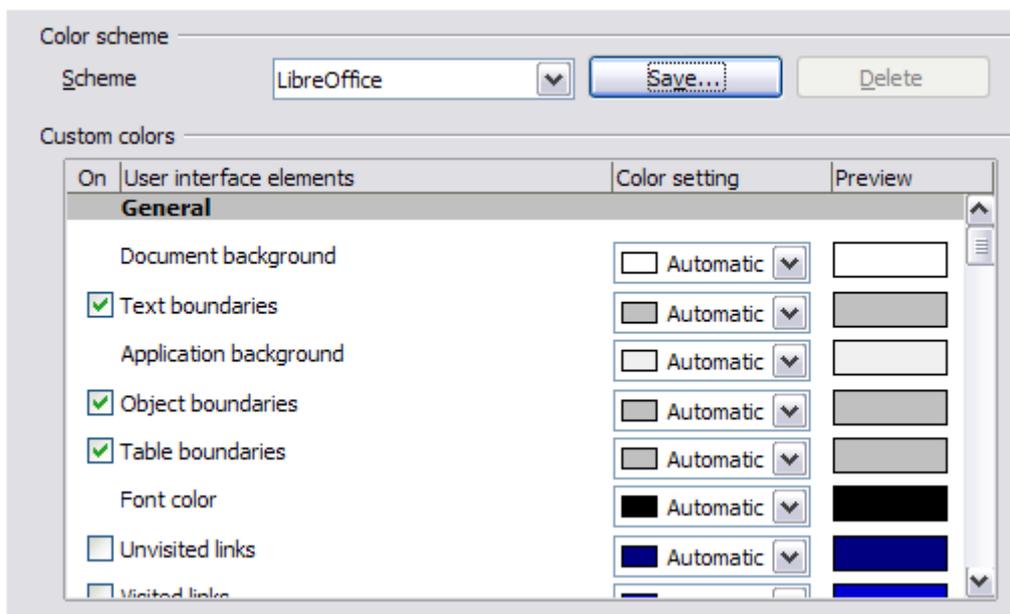
Figure 28: Showing or hiding text, object, and table boundaries

Accessibility options

Accessibility options include whether to allow animated graphics or text, how long help tips remain visible, some options for high contrast display, and a way to change the font for the user interface of the LibreOffice program.

Accessibility support relies on the Java Runtime Environment for communication with assistive technology tools. The *Support assistive technology tools* option is not shown on all LibreOffice installations. See *Assistive Tools in LibreOffice* in the Help for other requirements and information.

Select or deselect the options as required.
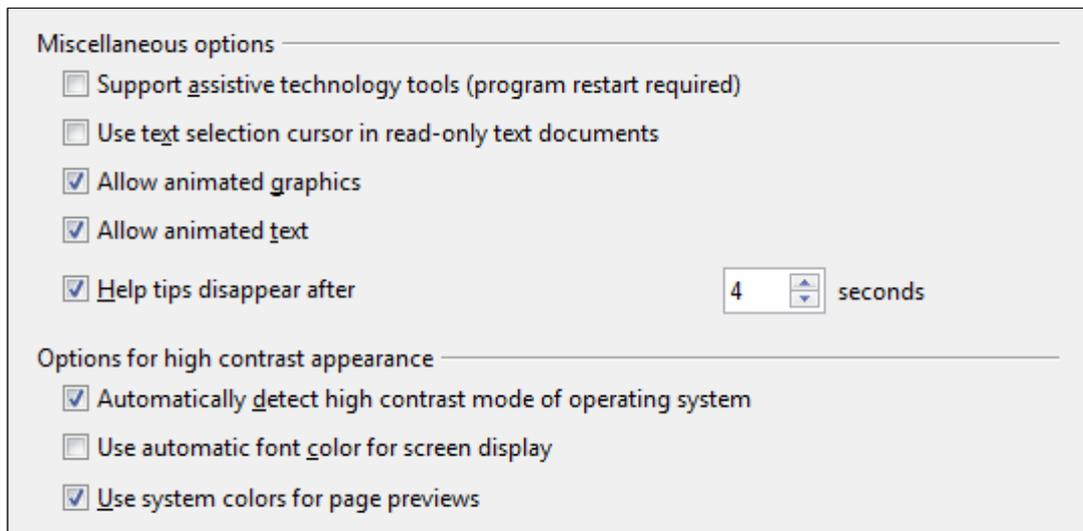
Figure 29: Choosing accessibility options

Advanced options

Java options

> If you install or update a Java Runtime Environment (JRE) after you install LibreOffice, or if you have more than one JRE installed on your computer, you can use the *LibreOffice – Advanced options* page to choose the JRE for LibreOffice to use.
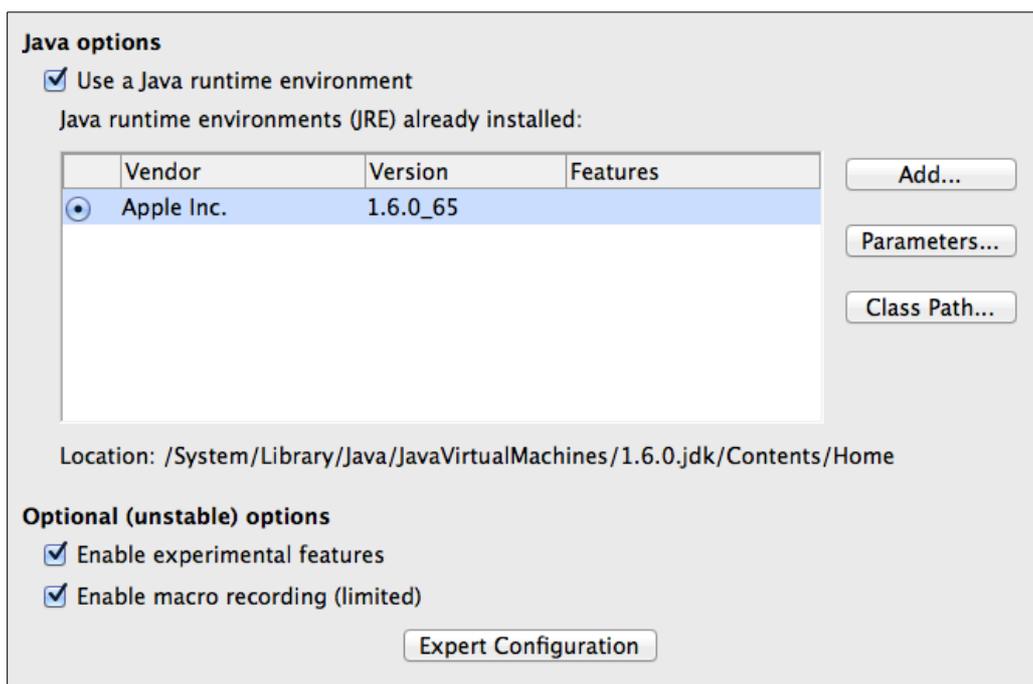
Figure 30: Choosing a Java runtime environment

> If you are a system administrator, programmer, or other person who customizes JRE installations, you can use the Parameters and Class Path pages (reached from the Java page) to specify this information.

> If you do not see anything listed in the middle of the page, wait a few minutes while LibreOffice searches for JREs on the hard disk.

> If LibreOffice finds one or more JREs, it will display them there. You can then select the **Use a Java runtime environment** option and (if necessary) choose one of the JREs listed.

Optional (unstable) options

Enable experimental features
Selecting this option enables features that are not yet complete or contain known bugs. The list of these features is different version by version.

Enable macro recording (limited)
This option enables macro recording with some limitations. Opening a window, switching between windows, and recording in a different window to that in which the recording began, is not supported. Only actions relating to document contents are recordable, so changes in Options or customizing menus are not supported. For more about macro recording, see Chapter 13, Getting Started with Macros.

Expert Configuration
Most users will have no need to use this. Click the **Expert Configuration** button to open a new window in which you can fine-tune the LibreOffice installation. The page offers detailed configuration options for many aspects of LibreOffice's appearance and performance. Double-click on a listed preference to enter a value to configure the preference.

Basic IDE options

The Basic IDE Options are available after **Enable experimental features** has been selected on the Advanced page of the Options dialog and the options have been saved. These options are for macro programmers and are not discussed here.
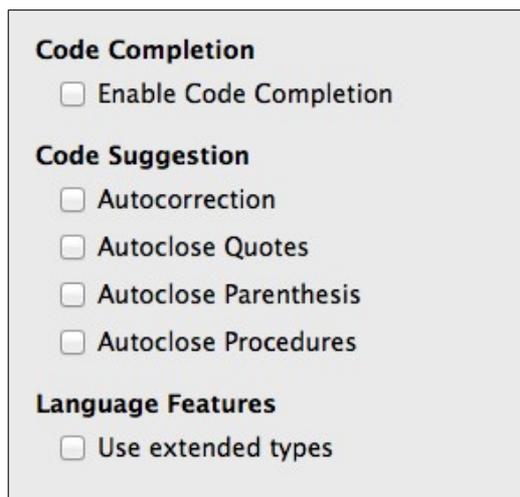
Figure 31: Basic IDE Options dialog

Online update options

On the *LibreOffice – Online Update* page (Figure 32), you can choose whether and how often to have the program check the LibreOffice website for program updates. If the **Check for updates automatically** option is selected, an icon appears at the right-hand end of the menu bar when an update is available. Click this icon to open a dialog where you can choose to download the update.

If the **Download updates automatically** option is selected, the download starts when you click the icon. To change the download destination, click the **Change** button and select the required folder in the file browser window.
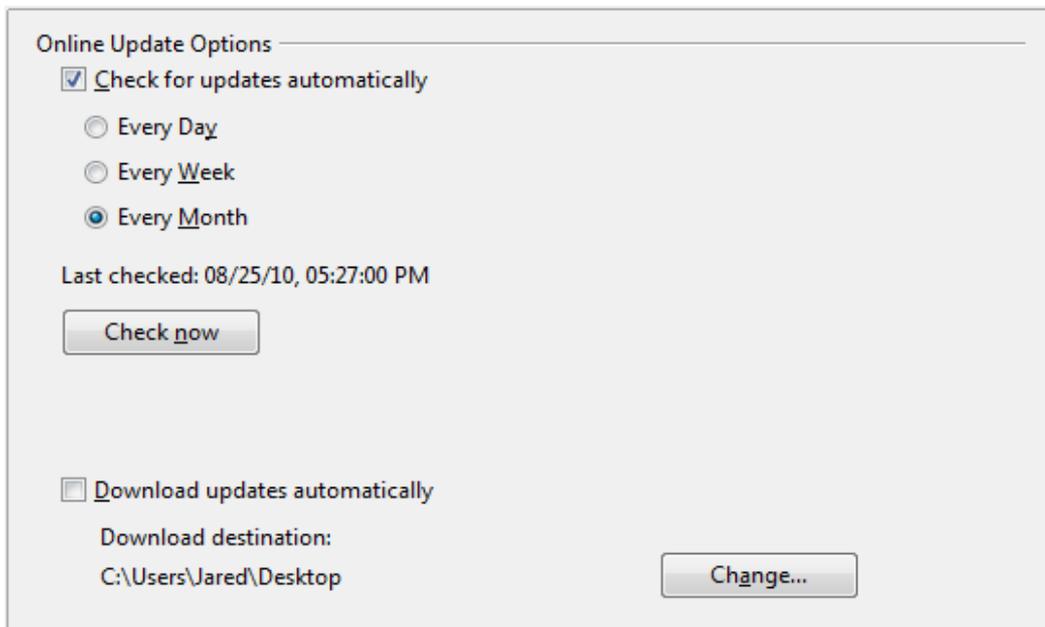
Figure 32: Online update options

Choosing Load/Save options

You can set the Load/Save options for loading and saving documents to suit the way you work.

If the Options dialog is not already open, click **Tools > Options**. Click the expansion symbol (+ or triangle) to the left of **Load/Save**.

General

Most of the choices on the *Load/Save – General* page are familiar to users of other office suites. Some items of interest are described below.
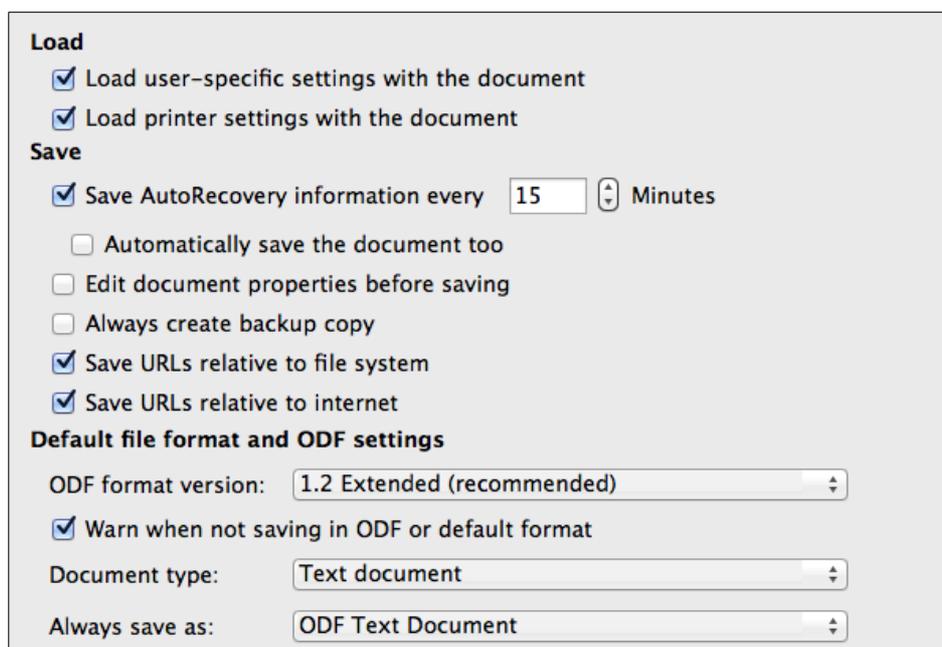
Figure 33: Choosing Load and Save options

Load user-specific settings with the document

A LibreOffice document contains certain settings that are read from the user's system. When you save a document, these settings are saved with it.

Select this option so that when a document loads, it ignores the stored settings in favor of the settings on your computer.

Even if you do not select this option, some settings are taken from your LibreOffice installation:

- Settings available in **File > Print > Options**
- Name of Fax
- Spacing options for paragraphs before text tables
- Information about automatic updating for links, field functions and charts
- Information about working with Asian character formats.

The following setting is **always** loaded with a document, whether or not this option is marked:

- Data source linked to the document and its view.

If you deselect this option, the user's personal settings do not overrule the settings in the document. For example, your choice (in the options for LibreOffice Writer) of how to update links is affected by the Load user-specific settings option.

Load printer settings with the document

If enabled, the printer settings will be loaded with the document. This can cause a document to be printed on a distant printer (perhaps in an office setting), if you do not change the printer manually in the Print dialog. If disabled, your standard printer will be used to print this document. The current printer settings will be stored with the document whether or not this option is selected.

Save AutoRecovery information every __ Minutes

Choose whether to enable AutoRecovery and how often to save the information used by the AutoRecovery process.

AutoRecovery in LibreOffice saves the information needed to restore all open documents in case of a crash. If you have this option set, recovering your document after a system crash will be easier.

Automatically save the document too

Specifies that LibreOffice saves all open documents when saving auto recovery information. Uses the same time interval as AutoRecovery does.

Edit document properties before saving

If you select this option, the Document Properties dialog pops up to prompt you to enter relevant information the first time you save a new document (or whenever you use **Save As**).

Always create backup copy

Saves the previous version of a document as a backup copy whenever you save a document. Every time LibreOffice creates a backup copy, the previous backup copy is replaced. The backup copy gets the extension BAK. Authors whose work may be very lengthy should always consider using this option.

Save URLs relative to file system / internet

Use this option to select the default for relative addressing of URLs in the file system and on the Internet. Relative addressing is only possible if the source document and the referenced document are both on the same drive.

A relative address always starts from the directory in which the current document is located. In contrast, absolute addressing always starts from a root directory. The following table demonstrates the difference in syntax between relative and absolute referencing:

Examples	File system	Internet
relative	../images/img.jpg	../images/img.jpg
absolute	file:///c|/work/images/img.jpg	http://myserver.com/work/images/img.jpg

If you choose to save relatively, the references to embedded graphics or other objects in your document will be saved relative to the location in the file system. In this case, it does not matter where the referenced directory structure is recorded. The files will be found regardless of location, as long as the reference remains on the same drive or volume. This is important if you want to make the document available to other computers that may have a completely different directory structure, drive or volume names. It is also recommended to save relatively if you want to create a directory structure on an Internet server.

If you prefer absolute saving, all references to other files will also be defined as absolute, based on the respective drive, volume or root directory. The advantage is that the document containing the references can be moved to other directories or folders, and the references remain valid.

Default file format and ODF settings

ODF format version. LibreOffice by default saves documents in OpenDocument Format (ODF) version 1.2 Extended. While this allows for improved functionality, there may be backwards compatibility issues. When a file saved in ODF 1.2 Extended is opened in an editor that uses earlier versions of ODF (1.0/1.1), some of the advanced features may be lost. Two notable examples are cross-references to headings and the formatting of numbered lists. If you plan to share documents with people who use editors that use older versions of ODF, you may wish to save the document using ODF version 1.0/1.1.

Document type. If you routinely share documents with users of Microsoft Office, you might want to change the **Always save as** attribute for documents to one of the Microsoft Office formats. Current versions of Microsoft Word can open ODT files, so this may no longer be needed.

VBA Properties

On the *VBA Properties* page, you can choose whether to keep any macros in Microsoft Office documents that are opened in LibreOffice.
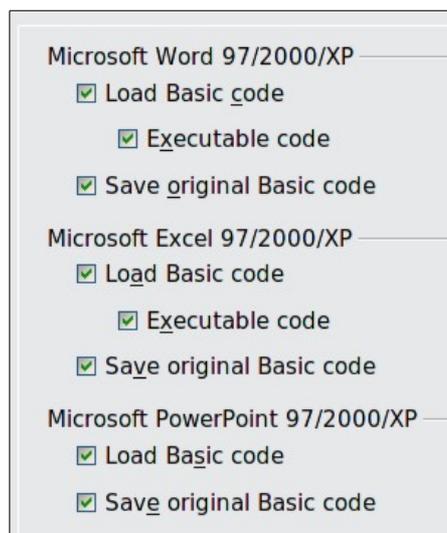
Figure 34: Choosing Load/Save VBA Properties

If you choose **Load Basic code**, you can edit the macros in LibreOffice. The changed code is saved in an ODF document but is not retained if you save into a Microsoft Office format.

If you choose **Save original Basic code**, the macros will not work in LibreOffice but are retained unchanged if you save the file into Microsoft Office format.

If you are importing a Microsoft Word or Excel file containing VBA code, you can select the option **Executable code**. Whereas normally the code is preserved but rendered inactive (if you inspect it with the StarBasic IDE you will notice that it is all commented), with this option the code is ready to be executed.

Save original Basic code takes precedence over **Load Basic code**. If both options are selected and you edit the disabled code in LibreOffice, the original Microsoft Basic code will be saved when saving in a Microsoft Office format.

To remove any possible macro viruses from the Microsoft Office document, deselect **Save original Basic code**. The document will be saved without the Microsoft Basic code.

Microsoft Office

On the *Load/Save – Microsoft Office* page, you can choose what to do when importing and exporting Microsoft Office OLE objects (linked or embedded objects or documents such as spreadsheets or equations).

Select the [L] options to convert Microsoft OLE objects into the corresponding LibreOffice OLE objects when a Microsoft document is loaded into LibreOffice (mnemonic: "L" for "load").

Select the [S] options to convert LibreOffice OLE objects into the corresponding Microsoft OLE objects when a document is saved in a Microsoft format (mnemonic: "S" for "save").
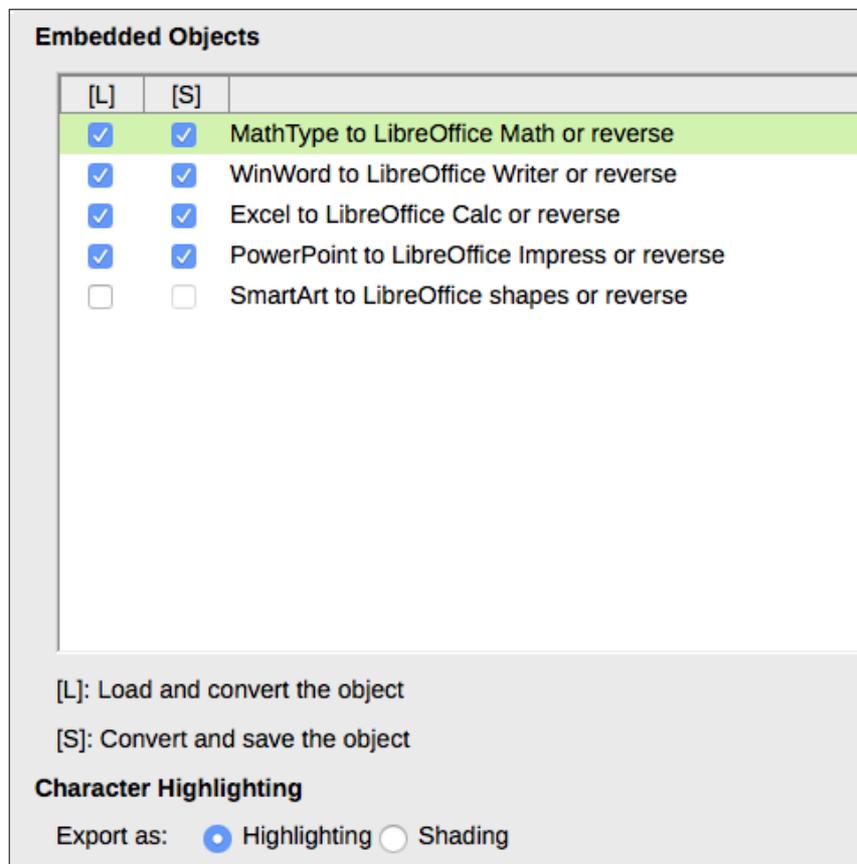
Figure 35: Choosing Load/Save Microsoft Office options

HTML compatibility

Choices made on the *Load/Save – HTML Compatibility* page affect HTML pages imported into LibreOffice and those exported from LibreOffice. See *HTML documents; importing/exporting* in the Help for more information.
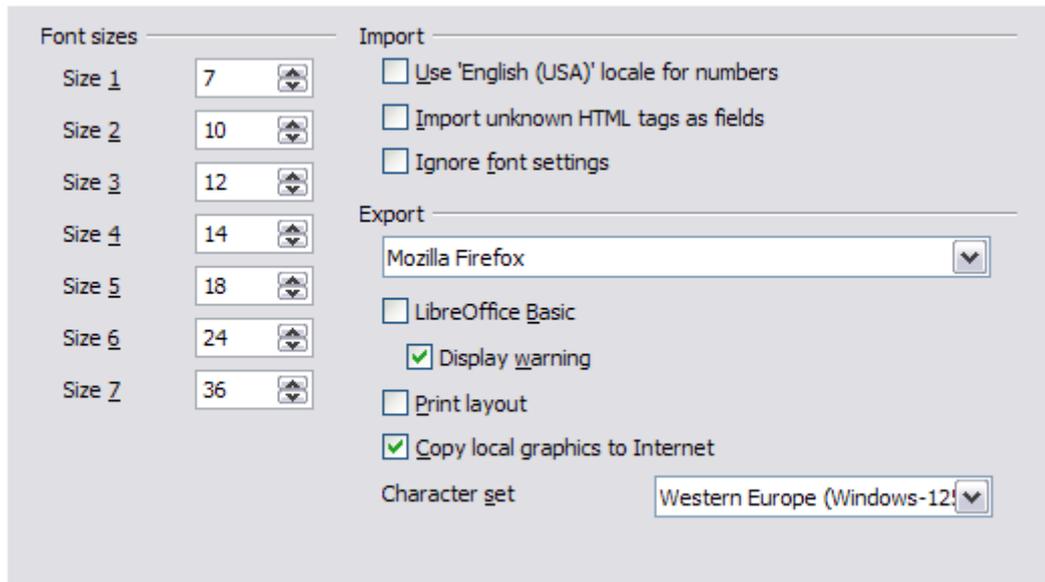
Figure 36. Choosing HTML compatibility options

Font sizes
Use these fields to define the respective font sizes for the HTML <font size=1> to <font size=7> tags, if they are used in the HTML pages. (Many pages no longer use these tags.)

Import – Use 'English (USA)' locale for numbers
When importing numbers from an HTML page, the decimal and thousands separator characters differ according to the locale of the HTML page. The clipboard, however, contains no information about the locale. If this option is **not** selected, numbers will be interpreted according to the **Locale setting** in **Tools > Options > Language Settings > Languages** (see page 54). If this option is selected, numbers will be interpreted as for the English (USA) locale.

Import – Import unknown HTML tags as fields
Select this option if you want tags that are not recognized by LibreOffice to be imported as fields. For an opening tag, an HTML_ON field will be created with the value of the tag name. For a closing tag, an HTML_OFF will be created. These fields will be converted to tags in the HTML export.

Import – Ignore font settings
Select this option to have LibreOffice ignore all font settings when importing. The fonts that were defined in the HTML Page Style will be used.

Export
To optimize the HTML export, select a browser or HTML standard from the **Export** box. If LibreOffice Writer is selected, specific LibreOffice Writer instructions are exported.

Export – LibreOffice Basic
Select this option to include LibreOffice Basic macros (scripts) when exporting to HTML format. You must activate this option *before* you create the LibreOffice Basic macro; otherwise the script will not be inserted. LibreOffice Basic macros must be located in the header of the HTML document. Once you have created the macro in the LibreOffice Basic IDE, it appears in the source text of the HTML document in the header.

If you want the macro to run automatically when the HTML document is opened, choose **Tools > Customize > Events**. See Chapter 13, Getting Started with Macros, for more information.

Export – Display warning

When the **LibreOffice Basic** option (see above) is *not* selected, the **Display warning** option becomes available. If the **Display warning** option is selected, then when exporting to HTML a warning is shown that LibreOffice Basic macros will be lost.

Export – Print layout

Select this option to export the print layout of the current document as well. The HTML filter supports CSS2 (Cascading Style Sheets Level 2) for printing documents. These capabilities are only effective if print layout export is activated.

Export – Copy local graphics to Internet

Select this option to automatically upload the embedded pictures to the Internet server when uploading using FTP.

Export – Character set

Select the appropriate character set for the export.

Choosing language settings

To customize the language settings in LibreOffice, you can do any of the following:

- Install the required dictionaries
- Change some locale and language settings
- Choose spelling options

Install the required dictionaries

LibreOffice automatically installs several dictionaries with the program. To add other dictionaries, be sure you are connected to the Internet, and then choose **Tools > Language > More Dictionaries Online**. LibreOffice will open your default web browser to a page containing links to additional dictionaries that you can install. Follow the prompts to select and install the ones you want.

Change some locale and language settings

You can change some details of the locale and language settings that LibreOffice uses for all documents, or for specific documents.

In the Options dialog, click **Language Settings > Languages**. The exact list shown depends on the *Enhanced language support* settings (see Figure 38).
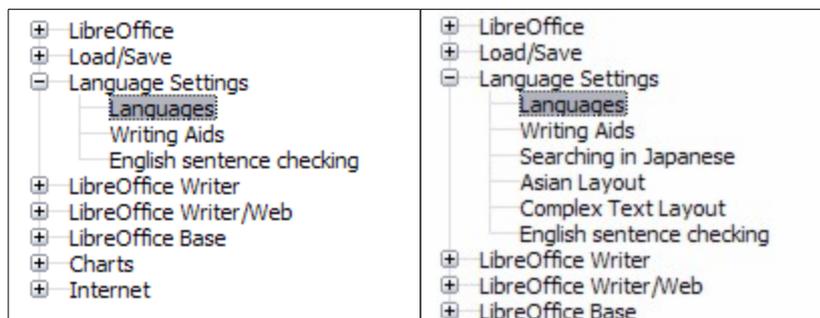
Figure 37: LibreOffice language options, without and with Asian and CTL options enabled

On the right-hand side of the *Language Settings – Languages* page, change the *User interface, Locale setting*, *Default currency*, and *Default languages for documents* as required. In the example, English (USA) has been chosen for all the appropriate settings.

Figure 38: Choosing language options

User interface
> The language of the user interface is usually set at the time LibreOffice is installed to match the language of the operating system. If more than one language has been installed for LibreOffice, you can select which language will be used for menus, dialogs, and help files.

Locale setting
> The local setting is the basis for many other settings within LibreOffice, for example defaults for numbering, currency, and units of measure. Unless you select something else here, the locale of the operating system will be set as default.

Decimal separator key
> If the *Decimal separator key* option is selected, LibreOffice will use the character defined by the default locale. If this option is not selected, the keyboard driver defines the character used.

Default currency
> The *Default currency* is that used in the country entered as *Locale*. The default currency determines the proper formatting of fields formatted as currency. If the locale setting is changed, the default currency changes automatically. If the *default currency* is changed, all dialogs involving currency and all currency icons will be changed in all open documents. Documents that were saved with one currency as the default will open using the new currency defaults.

Date acceptance patterns
> *Date acceptance patterns* define how LibreOffice recognizes input as dates. *Locale* also defines the default expression of dates. You can define additional date patterns, separated by semicolons, using Y, M, & D for Year, Month, and Day. LibreOffice will always correctly interpret dates entered in ISO 8601 format as Y-M-D and YYYY-MM-DD.

> ### Caution

> Data entered into a Calc spreadsheet or a Writer table must be entered in a format defined by *Local* in order to be recognized as dates.

Default languages for documents

Select the languages used for the spelling checker, thesaurus, and hyphenation features of LibreOffice. If these options are only for the current document, select *For the current document only.*

If necessary, select the options to enable support for Asian languages (Chinese, Japanese, Korean) and support for CTL (complex text layout) languages such as Urdu, Thai, Hebrew, and Arabic. If you choose either of these options, the next time you open this dialog, you will see some extra choices under Language Settings, as shown in Figure 37. These choices (*Searching in Japanese*, *Asian Layout*, and *Complex Text Layout*) are not discussed here.

Enhanced language support – Ignore system input language

Default language settings depend on the *Locale* setting. The default locale is based on that of the computer's operating system. A keyboard layout is normally based on the language used by the operating system but can be changed by the user. If this option is not selected, and there is a change in keyboard layout, input from the keyboard will be different from what is expected.

Choose spelling options

To choose the options for checking spelling, click **Language Settings > Writing Aids**. In the *Options* section of the page (Figure 39), choose the settings that are useful for you.
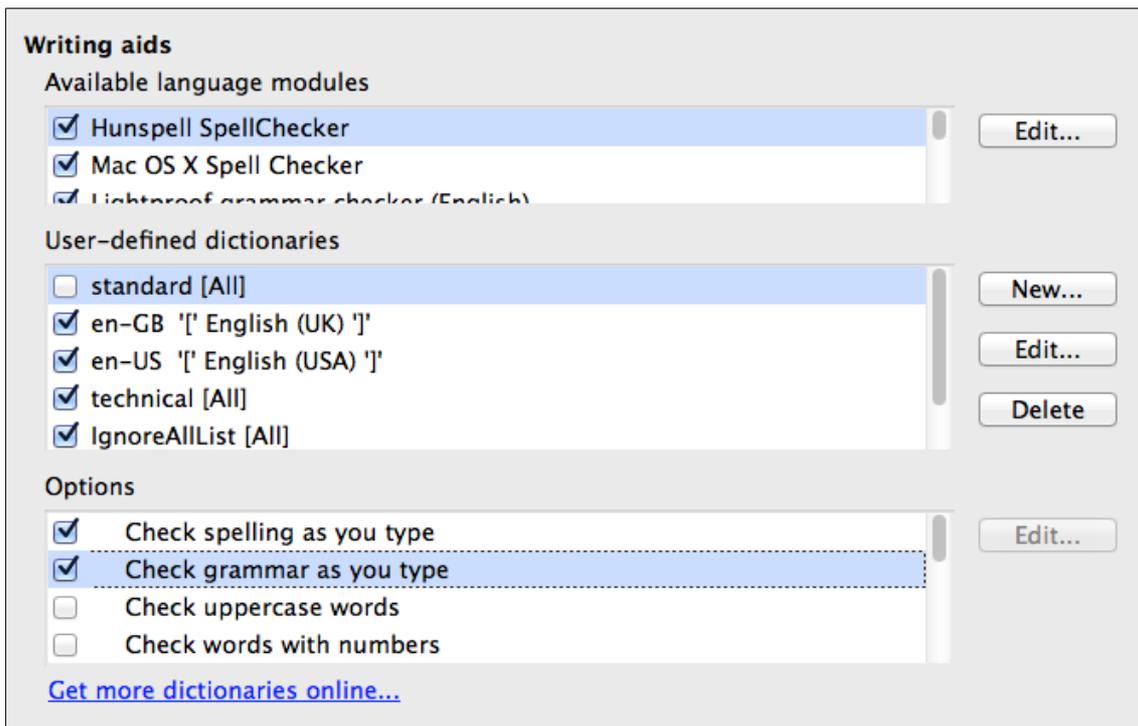
Figure 39: Choosing languages, dictionaries, and options for checking spelling

Some considerations:

- If you do not want spelling checked while you type, deselect **Check spelling as you type**. This option can also be deselected using the **AutoSpellcheck** button on the Standard toolbar.

- If you want grammar to be checked as you type, you must have **Check spelling as you type** enabled too.

- If you use a custom dictionary that includes words in all upper case and words with numbers (for example, AS/400), select **Check uppercase words** and **Check words with numbers**.
- **Check special regions** includes headers, footers, frames, and tables when checking spelling.

Here you can also check which user-defined (custom) dictionaries are active by default, and add or remove user-installed dictionaries, by clicking the **New** or **Delete** buttons. Dictionaries installed by the system cannot be deleted.

English sentence checking

On the **Language Settings > English sentence checking** page, you can choose which items are checked for, reported to you, or converted automatically. This menu is also found in the English dictionaries extension installed by default by LibreOffice. Select **Tools > Extension Manager**, select the English spelling dictionaries and click the **Options** button to reveal the menu. Select which of the optional features you wish to check.

After selecting the additional grammar checks, you must restart LibreOffice, or reload the document, for them to take effect.

Figure 40: Choosing options for checking sentences in English

Grammar checking

Possible mistakes
Checks for things such as; *with it's*, *he don't*, *this things* and so on.

Capitalization
Checks for the capitalization of sentences. The sentence boundary detection depends on abbreviations.

Word duplication
Checks for all word duplication, rather than just the default words 'and', 'or', 'for', and 'the'.

Parentheses
Checks for pairs of parentheses and quotation marks.

Punctuation

Word spacing
This option is selected by default. It checks for single spaces between words, indicating instances of double or triple spaces, but not of more spaces than that.

Sentence spacing

Checks for a single space between sentences, indicating when one or two extra spaces are found.

More spaces

Checks word and sentence spacing for more than two extra spaces.

Em dash; En dash

These options force a non-spaced em dash to replace a spaced en dash, or force a spaced en dash to replace a non-spaced em dash.

Quotation marks

Checks for correct typographical double quotation marks.

Multiplication sign

This option is selected by default. It replaces an 'x' used as a multiplication symbol with the correct typographical symbol.

Apostrophe

Replaces an apostrophe with the correct typographical character.

Ellipsis

Replaces three consecutive periods (full stops) with the correct typographical symbol.

Minus sign

Replaces a hyphen with the correct minus typographical character.

Others

Convert to metric; Convert to non-metric

Converts quantities in a given type of unit to quantities in the other type of unit: metric to imperial or imperial to metric.

Thousands separation of large numbers

Converts a number with five or more significant digits to a common format, that is one which uses the comma as a thousands separator, or to the ISO format which uses a narrow space as a separator.

Choosing Internet options

The Internet options available depend on your operating system.

Use the Proxy page (if available) to save proxy settings for use with LibreOffice.
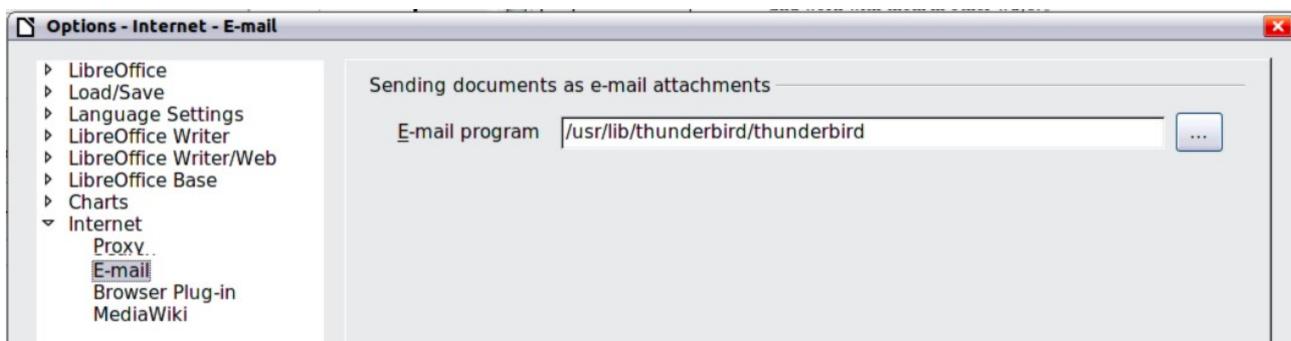
Figure 41: Internet options, showing E-mail page available to Linux users

If you are using a Mozilla browser (such as Firefox) on Windows or Linux, you can enable the Browser Plug-in so you can open LibreOffice files in your browser, print them, save them, and work with them in other ways.

If you are using a Unix- or Linux-based operating system (including Mac OS X), an additional page of E-mail options is available, where you can specify the e-mail program to use when you send the current document as e-mail. Under Windows the operating system's default e-mail program is always used.

A MediaWiki publisher is included on Windows and Linux. To enable it, select MediaWiki in the Internet options, then click the **Add** button to open the dialog shown in Figure 42. Here you can specify the address (URL) and log-in information for a wiki. You can add several wikis to the list.
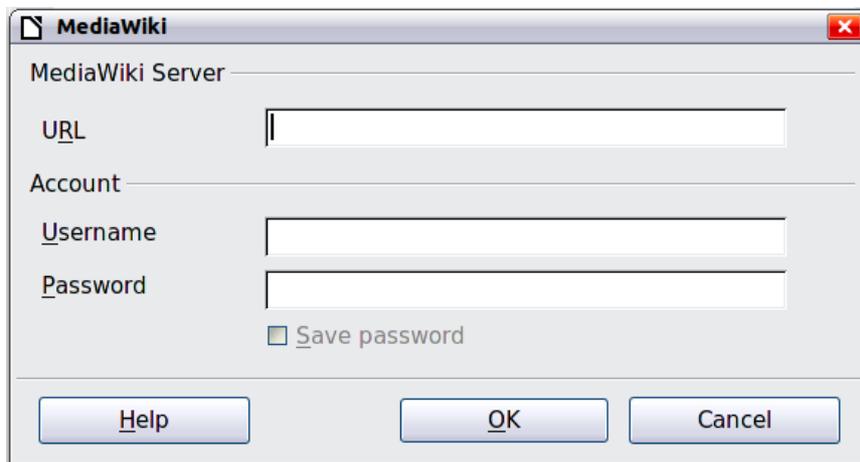
Figure 42: Specifying a MediaWiki server account

Controlling LibreOffice's AutoCorrect functions

Some people find some or all of the items in LibreOffice's AutoCorrect function annoying because they change what you type when you do not want it changed. Many people find some of the AutoCorrect functions quite helpful; if you do, then select the relevant options. But if you find unexplained changes appearing in your document, this is a good place to look to find the cause.

To open the AutoCorrect dialog, click **Tools > AutoCorrect Options**. (You need to have a document open for this menu item to appear.) In Writer, this dialog has five tabs, as shown in Figure 43. In other components of LibreOffice, the dialog has only four tabs. More details are given in the component guides.
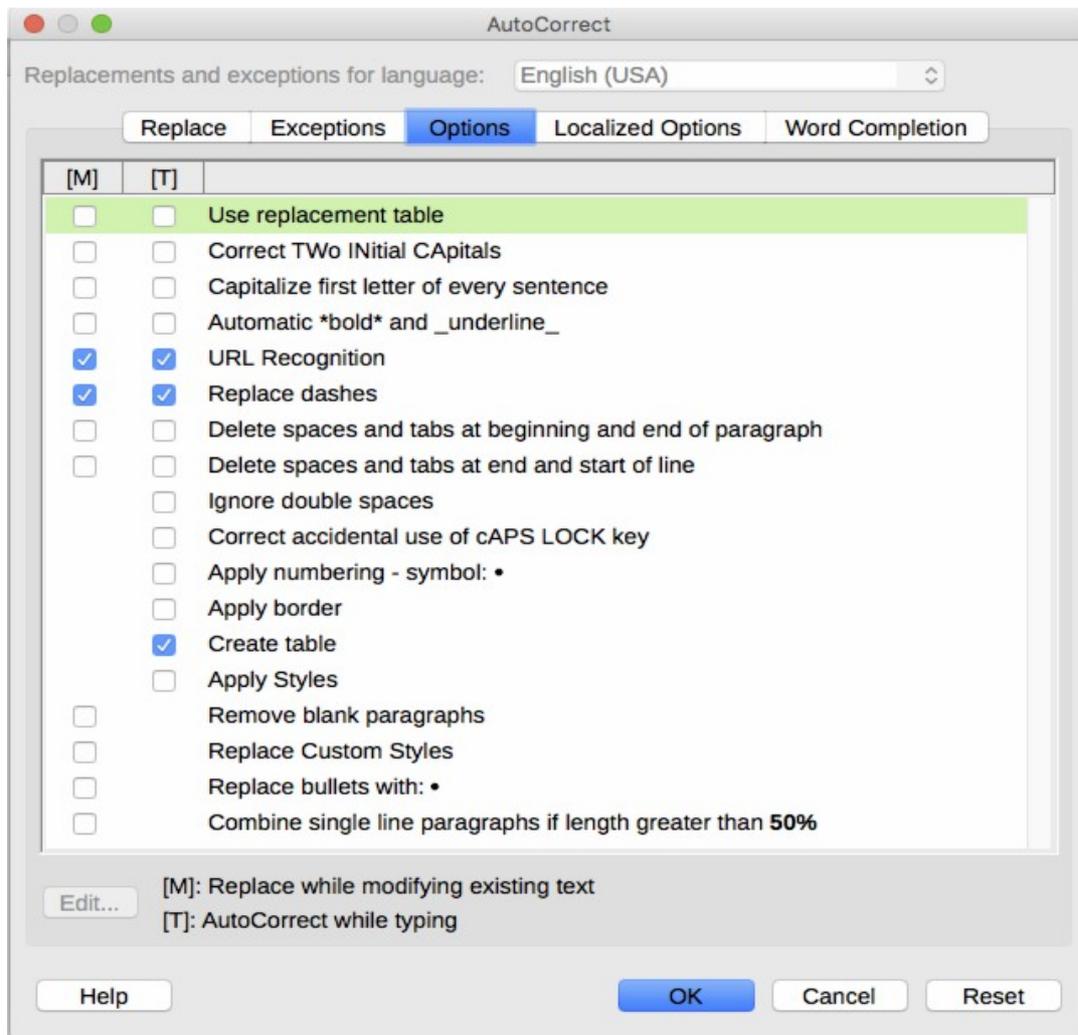
Figure 43: The AutoCorrect dialog in Writer, showing some of the choices on the Options tab

Chapter 3
Using Styles and Templates

Using Consistent Formatting in Your Documents

What is a template?

A *template* is a model document that you use to create other documents. For example, you can create a template for business reports that has your company's logo on the first page. New documents created from this template will all have your company's logo on the first page.

Templates can contain anything that regular documents can contain, such as text, graphics, a set of styles, and user-specific setup information such as measurement units, language, the default printer, and toolbar and menu customization.

All documents in LibreOffice are based on templates. You can create a specific template for any document type (text, spreadsheet, drawing, presentation). If you do not specify a template when you start a new document, then the document is based on the default template for that type of document. If you have not specified a default template, LibreOffice uses the blank template for that type of document that is installed with LibreOffice. See "Setting a default template" on page 74 for more information.

Since LibreOffice version 4.4, you can create templates for Master Documents as well as for ordinary documents.

What are styles?

A *style* is a set of formats that you can apply to selected pages, text, frames, and other elements in your document to quickly change their appearance. Often applying a style means applying a whole group of formats at the same time.

Many people manually format paragraphs, words, tables, page layouts, and other parts of their documents without paying any attention to styles. They are used to writing documents according to *physical* attributes. For example, you might specify the font family, font size, and any formatting such as bold or italic.

Styles are *logical* attributes. Using styles means that you stop saying "font size 14pt, Times New Roman, bold, centered" and you start saying "Title" because you have defined the "Title" style to have those characteristics. In other words, using styles means that you shift the emphasis from what the text (or page, or other element) looks like, to what the text *is*.

Styles help improve consistency in a document. They also make major formatting changes easy. For example, you may decide to change the indentation of all paragraphs, or change the font of all titles. For a long document, this simple task can require making individual changes in dozens of places. By contrast, when you use styles, you only need to make a single change.

In addition, styles are used by LibreOffice for many processes, even if you are not aware of them. For example, Writer relies on heading styles (or other styles you specify) when it compiles a table of contents. Some common examples of style use are given in "Examples of style use" on page 77.

LibreOffice supports the following types of styles:

- *Page styles* include margins, headers and footers, borders and backgrounds. In Calc, page styles also include the sequence for printing sheets.
- *Paragraph styles* control all aspects of a paragraph's appearance, such as text alignment, tab stops, line spacing, and borders, and can include character formatting.
- *Character styles* affect selected text within a paragraph, such as the font and size of text, or bold and italic formats.
- *Frame styles* are used to format graphic and text frames, including text wrap, borders, backgrounds, and columns.
- *List styles* allow you to select, format, and position numbers or bullets in lists.

- *Cell styles* include fonts, alignment, borders, background, number formats (for example, currency, date, number), and cell protection.
- *Graphics styles* in drawings and presentations include line, area, shadowing, transparency, font, connectors, dimensioning, and other attributes.
- *Presentation styles* include attributes for font, indents, spacing, alignment, and tabs.

Different styles are available in the various components of LibreOffice, as listed in Table 3.

LibreOffice comes with many predefined styles. You can use the styles as provided, modify them, or create new styles, as described in this chapter.

Table 3. Styles available in LibreOffice components

Style Type	*Writer*	*Calc*	*Draw*	*Impress*
Page	X	X		
Paragraph	X			
Character	X			
Frame	X			
Numbering	X			
Cell		X		
Presentation			X	X
Graphics	(included in Frame styles)		X	X

Applying styles

LibreOffice provides several ways for you to select styles to apply:

- Styles and Formatting window (floating, or in Sidebar)
- Fill Format Mode
- Apply Style List
- Keyboard shortcuts

Using the Styles and Formatting window

The Styles and Formatting window includes the most complete set of tools for styles. To use it for applying styles:

1) Select **Format > Styles and Formatting** from the Menu bar, or press *F11* (*⌘+T on a Mac),* or click the Styles and Formatting tab in the Sidebar (**View > Sidebar** to open it).

   The Styles and Formatting window shows previews of the styles available. Figure 44 shows the window for Writer, with Paragraph Styles visible.

   You can move this window to a convenient position on the screen or dock it to the right edge (see Chapter 1 for more information).

2) Select one of the buttons at the top left of the Styles and Formatting window to display a list of styles in that category.

3) To apply an existing style, position the insertion point in the paragraph, frame, page, or word, and then double-click the name of the style in one of these lists. To apply a character style to more than one word, select the characters first.

> **Tip**
>
> At the bottom of the Styles and Formatting window is a drop-down list. In Figure 44 the window shows *Applied Styles*, meaning the list includes only the styles used in the document. You can choose to show all styles or other groups of styles, for example only custom styles.
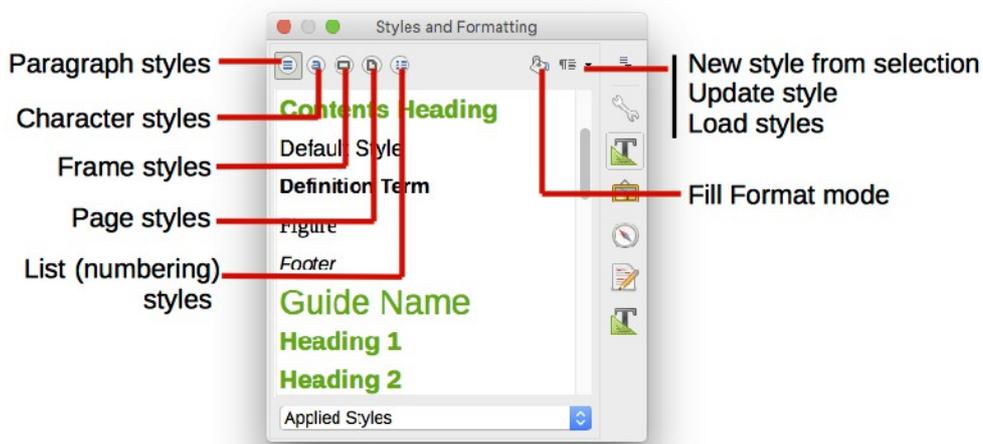
Figure 44: The Styles and Formatting window for Writer, showing paragraph styles

Using Fill Format Mode

Use Fill Format to apply a style to many different areas quickly without having to go back to the Styles and Formatting window and double-click every time. This method is quite useful when you need to format many scattered paragraphs, cells, or other items with the same style:

1) Open the Styles and Formatting window and select the style you want to apply.

2) Select the **Fill Format Mode** button.

3) To apply a paragraph, page, or frame style, hover the mouse over the paragraph, page, or frame and click. To apply a character style, hold down the mouse button while selecting the characters. Clicking a word applies the character style for that word.

4) Repeat step 3 until you have made all the changes for that style.

5) To quit Fill Format mode, click the **Fill Format Mode** button again or press the *Esc* key.

> **Caution**
>
> When this mode is active, a right-click anywhere in the document undoes the last Fill Format action. Be careful not to accidentally right-click and undo actions you want to keep.

Using the Apply Style list

After you have used a paragraph style at least once in a document, the style name appears on the Apply Style list near the left-hand end of the Formatting toolbar.

You can open this list and click the style you want, or you can use the up and down arrow keys to move through the list and then press *Enter* to apply the highlighted style.

> **Tip**
>
> Select **More** at the bottom of the Apply Style list to open the Styles and Formatting window.
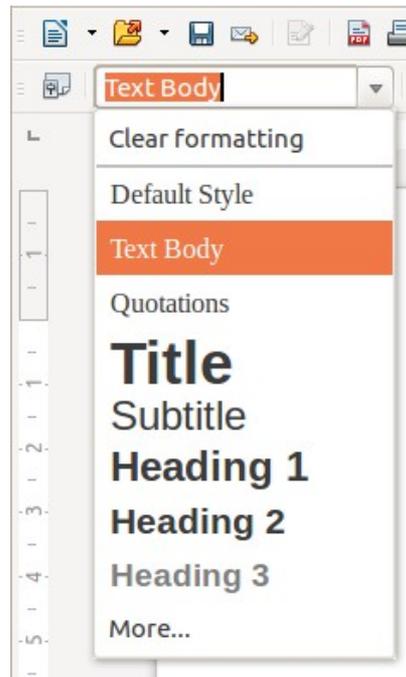
*Figure 45: The Apply Style list
on the Formatting toolbar*

Using keyboard shortcuts

Some keyboard shortcuts for applying styles are predefined. For example, in Writer *Ctrl+0* applies the *Text body* style, *Ctrl+1* applies the *Heading 1* style, and *Ctrl+2* applies the *Heading 2* style. You can modify these shortcuts and create your own; see Chapter 14, Customizing LibreOffice, for instructions.

 Caution

> Manual formatting (also called *direct formatting*) overrides styles, and you cannot get rid of the manual formatting by applying a style to it.

> To remove manual formatting, select the text, right-click, and choose **Clear Direct Formatting** from the context menu, or use *Ctrl+M* after selecting the text.

Modifying styles

LibreOffice includes predefined styles, but you can also create custom styles. You can modify both types of styles in several ways:

- Change a style using the Style dialog
- Update a style from a selection
- Use AutoUpdate (paragraph and frame styles only)
- Load or copy styles from another document or template

 Note

> Any changes you make to a style are effective only in the current document. To change styles in more than one document, you need to change the template or copy the styles into the other documents as described on page 67.

Changing a style using the Style dialog

To change an existing style using the Style dialog, right-click on the required style in the Styles and Formatting window and select **Modify** from the pop-up menu.

The Style dialog displayed depends on the type of style selected. Each Style dialog has several tabs. See the chapters on styles in the user guides for details.

Updating a style from a selection

To update a style from a selection:

1) Open the Styles and Formatting window.

2) In the document, select an item that has the format you want to adopt as a style.

![Caution icon] **Caution**

> When updating a paragraph style, make sure that the selected paragraph contains unique properties. If it mixes font sizes or font styles, those mixed properties will remain the same as before.

3) In the Styles and Formatting window, select the style to update, then click on the arrow next to the **New Style from Selection** icon and click **Update Style**.
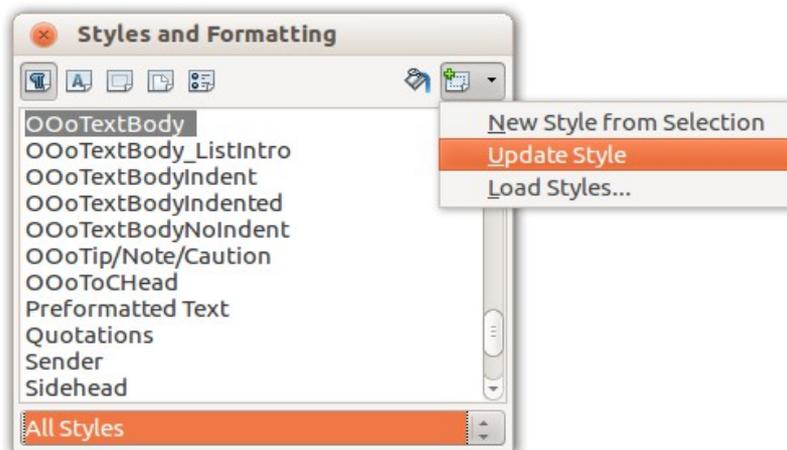
Figure 46: Updating a style from a selection

![Tip icon] **Tip**

> You can also modify styles using the submenu on each style in the Apply Style list on the Formatting toolbar (see Figure 47).
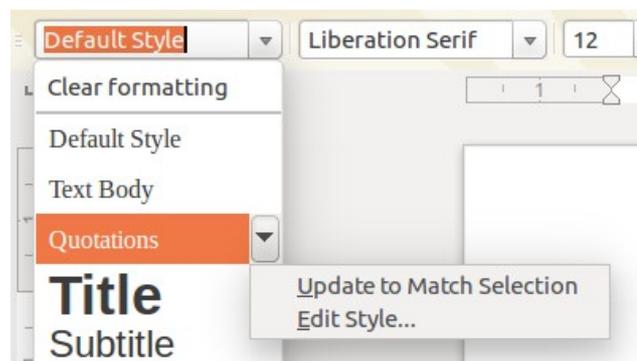
Figure 47: Modifying a style from the Apply Style list

Using AutoUpdate

AutoUpdate applies to paragraph and frame styles only. If the AutoUpdate option is selected on the Organizer page of the Paragraph Style or Frame Style dialog, applying direct formatting to a paragraph or frame using this style in your document automatically updates the style itself.

> ▶ **Tip**
>
> If you are in the habit of manually overriding styles in your document, be sure that AutoUpdate is **not** enabled.

Updating styles from a document or template

You can update styles by copying (loading) them from a template or another document. See "Copying styles from a template or document" on page 68.

Creating new (custom) styles

You may want to add some new styles. You can do this by using either the Style dialog or the New Style from Selection tool.

Creating a new style using the Style dialog

To create a new style using the Style dialog, right-click in the Styles and Formatting window and select **New** from the pop-up menu.

If you want your new style to be linked with an existing style, first select that style and then right-click and select **New**.

If you link styles, then when you change the base style (for example, by changing the font from Times to Helvetica), all the linked styles will change as well. Sometimes this is exactly what you want; other times you do not want the changes to apply to all the linked styles. It pays to plan ahead.

The dialogs and choices are the same for defining new styles and for modifying existing styles. See the chapters on styles in the user guides for details.

Creating a new style from a selection

You can create a new style by copying an existing manual format. This new style applies only to this document; it will not be saved in the template.

1) Open the Styles and Formatting window and choose the type of style you want to create.

2) In the document, select the item you want to save as a style.

3) In the Styles and Formatting window, select on the **New Style from Selection** icon.

4) In the Create Style dialog, type a name for the new style. The list shows the names of existing custom styles of the selected type. Click **OK** to save the new style.
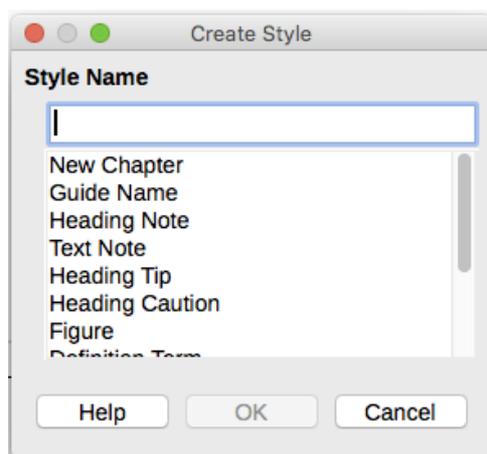
Figure 48: Naming a new style
created from a selection

Dragging and dropping to create a style

You can drag and drop a selection into the Styles and Formatting window to create a new style. The element to drag depends upon the LibreOffice application.

Writer
> Select some text and drag it to the Styles and Formatting window. If Paragraph Styles are active, the paragraph style will be added to the list. If Character Styles are active, the character style will be added to the list.

Calc
> Drag a cell selection to the Styles and Formatting window to create a cell style.

Draw/Impress
> Select and drag a drawing object to the Styles and Formatting window to create a graphic style.

Copying styles from a template or document

You can copy styles into a document by loading them from a template or from another document:

1) Open the document you want to copy styles into.

2) In the Styles and Formatting window, click the arrow next to the **New Style from Selection** icon, and then select **Load Styles** (see Figure 46).

3) On the Load Styles dialog (Figure 49), find either a template or an ordinary document from which to copy styles. Click the **From File** button to open a window from which to select the required document.

4) Select the types of styles to copy from the checkboxes at the bottom of the dialog.

5) Select **Overwrite** if you want to replace styles in the original document that have the same name as styles in the document from which you are importing styles. If this box is not selected, you will only copy styles whose names are not used in the original document.

6) Click **OK** to copy the styles.
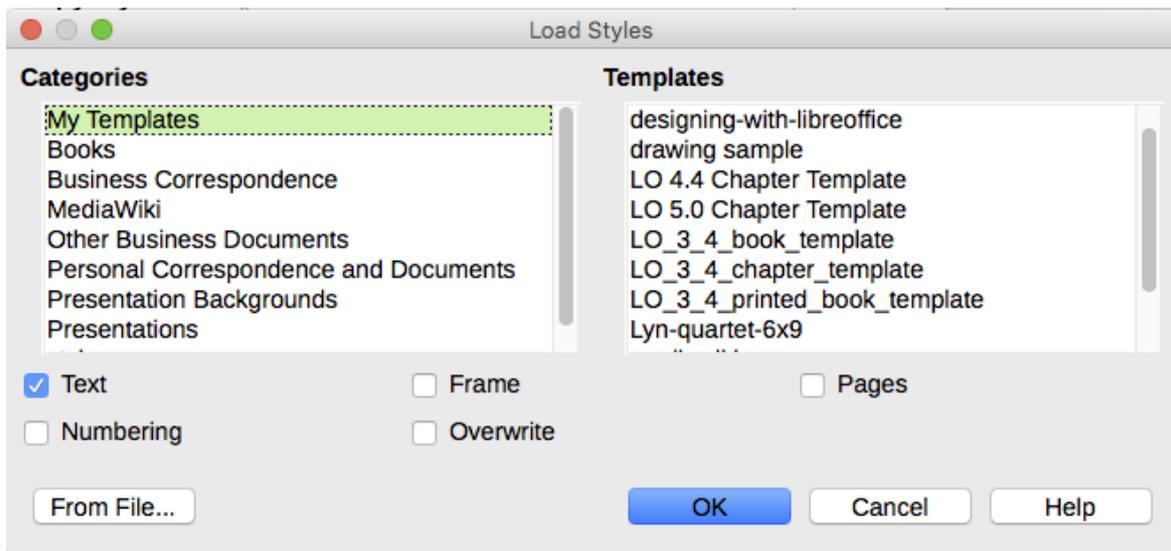
Figure 49: Copying styles from a template into the open document

> ### Caution
>
> If your document has a table of contents, and if you have used custom styles for headings, the heading levels associated with outline levels in **Tools > Outline Numbering** will revert to the defaults of Heading 1, Heading 2, and so on when you load Text Styles from a file that does not use the same custom styles. You will need to change these back to your custom heading styles.

Deleting styles

You cannot remove (delete) any of LibreOffice's predefined styles from a document or template, even if they are not in use.

You can remove any user-defined (custom) styles; but before you do, you should make sure the styles are not in use in the current document.

To delete any unwanted styles, in the Styles and Formatting window select each one to be deleted (hold *Ctrl* while selecting multiple styles), and then right-click on a selected style and select **Delete** on the context menu.

If the style is not in use, it is deleted immediately without confirmation. If the style is in use, you receive a warning message asking you to confirm deletion.

> ### Caution
>
> If you delete a style that is in use, all objects with that style will return to the default style.

Using a template to create a document

To use a template to create a document:

1) From the Menu bar, choose **File > New > Templates**. The Template Manager dialog opens.

2) From the tabs at the top of the dialog, select the category of template you want to use.

3) Select the folder that contains the template that you want to use. All the templates contained in that folder are listed on the page (as shown in Figure 50).

4) Select the template that you want to use. If you wish to view the template's properties, click the **Properties** button above the list of templates. The template's properties appear in a pop-up window. Click **Close** to close this pop-up window.

5) Select the required template. A new document based on the selected template opens in LibreOffice.

The template the document is based upon is listed in **File > Properties > General**. The connection between the template and the document remains until the template is modified and, the next time that the document is opened, you choose not to update it to match the template.
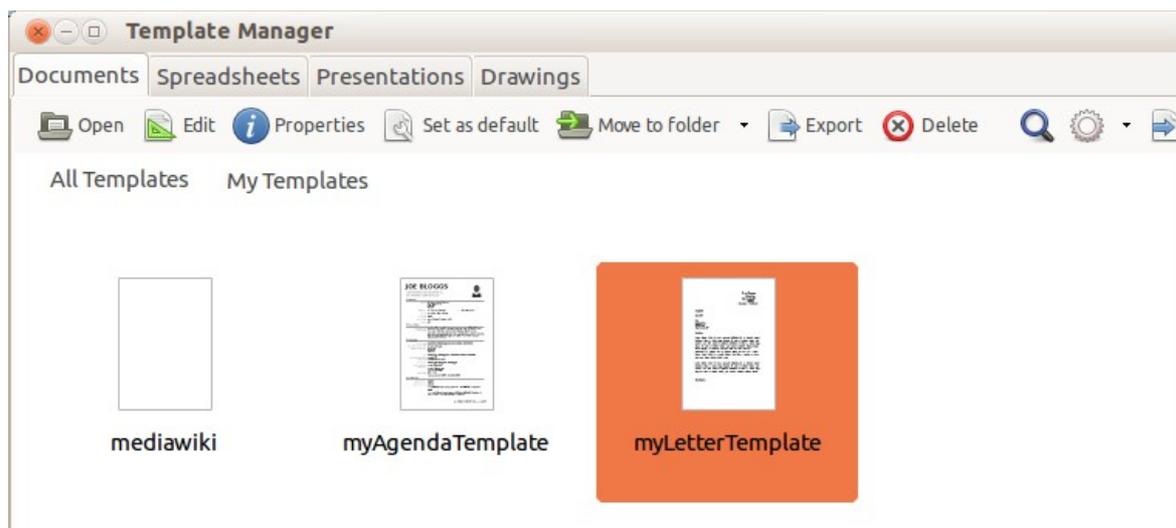
Figure 50: Template Manager dialog, showing a selected template

Creating a template

You can create your own templates in two ways: by saving a document as a template or by using a wizard.

Creating a template from a document

In addition to formatting, any settings that can be added to or modified in a document can be saved within a template. For example, you can also save printer settings, and general behaviors set from **Tools > Options**, such as **Paths** and **Colors**.

Templates can also contain predefined text, saving you from having to type it every time you create a new document. For example, a letter template may contain your name, address, and salutation.

You can also save menu and toolbar customizations in templates; see *Chapter 14, Customizing LibreOffice*, for more information.

To create a template from a document and save it to My Templates:

1) Open a new or existing document of the type you want to make into a template (text document, spreadsheet, drawing, or presentation).

2) Add any content that you want to appear in any document you create from the new template, for example company logo, copyright statement, and so on.

3) Create or modify any styles that you want to use in the new template.

4) From the Menu bar, choose **File > Templates > Save As Template**. The Template Manager dialog (Figure 51) opens, displaying the default folders and any user-created folders.

5) Select the My Templates folder.

6) Select **Save**.

7) In the dialog that opens, type a name for the new template and click **OK**.

8) Close the Template Manager dialog.
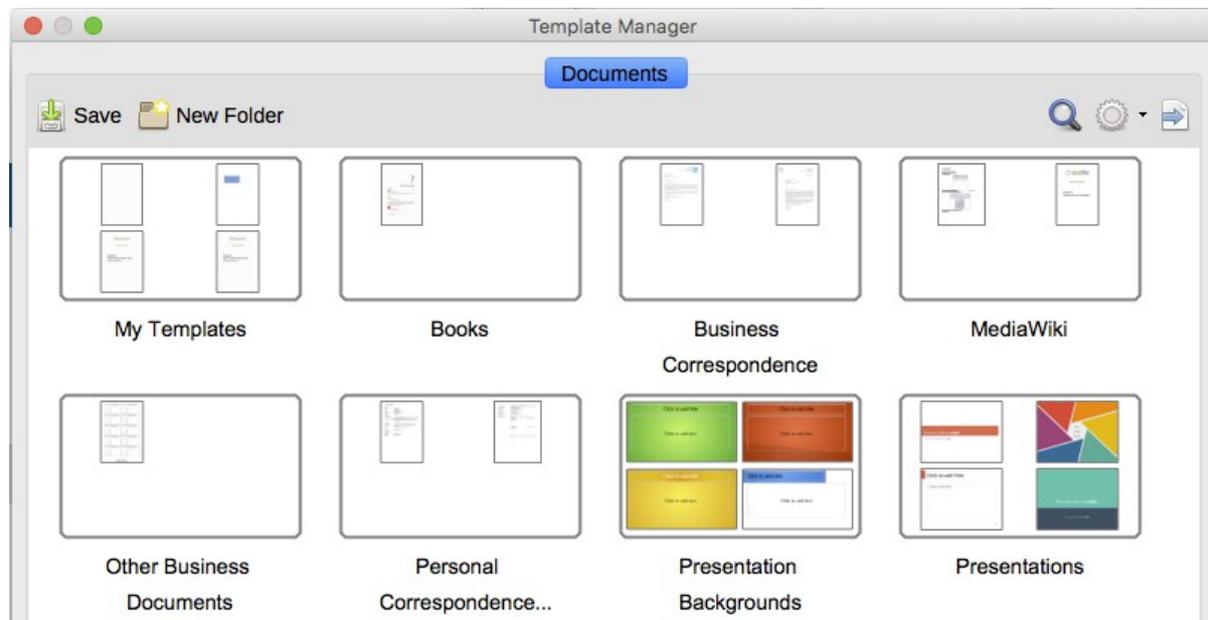
Figure 51: Template Manager dialog

> ### Note
>
> Although the Template Manager shows only a Documents tab when saving a new template of any type, the template will appear on the correct tab (Documents, Spreadsheets, Presentations, Drawings) when you return to this dialog.

Creating a template using a wizard

You can use wizards to create templates for letters, faxes, and agendas, and to create presentations and Web pages.

For example, the Fax Wizard guides you through the following choices:

- Type of fax (business or personal)
- Document elements like the date, subject line (business fax), salutation, and complementary close
- Options for sender and recipient information (business fax)
- Text to include in the footer (business fax)

To create a template using a wizard:

1) From the Menu bar, choose **File > Wizards > [type of template required]** (see Figure 52).

2) Follow the instructions on the pages of the wizard. This process is slightly different for each type of template, but the format is very similar.

3) In the last section of the wizard, you can specify the template name which will show in the Template Manager, and also the name and location for saving the template. The two names can be different but this may later cause you confusion. The default location is your user templates directory, but you can choose a different location if you prefer.

4) To set the file name or change the directory, select the **Path** button (the three dots to the right of the location). The **Save As** dialog opens. Make your selections and click **Save** to close the dialog.
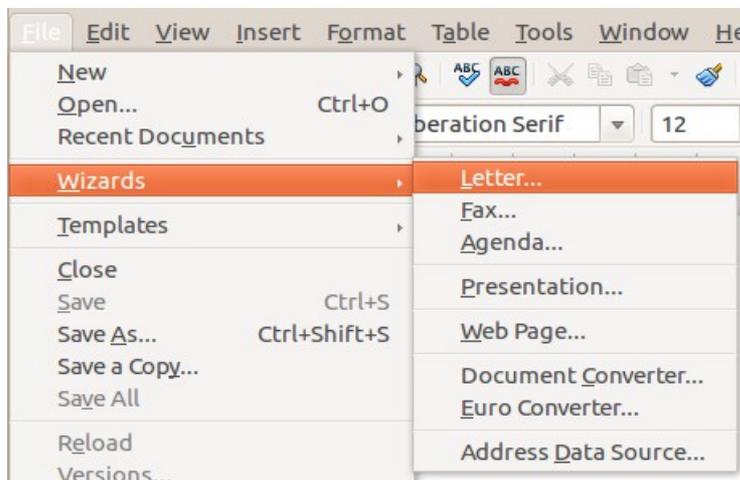
Figure 52: Creating a template using a wizard

5) Finally, you can choose whether to create a new document from your template immediately, or manually change the template, and then click **Finish** to save the template. For future documents, you can re-use the template created by the wizard, just as you would use any other template.

You may need to open the Template Manager and click **Refresh** on the **Action** menu to have any new templates appear in the listings.

Editing a template

You can edit a template's styles and content, and then, if you wish, you can reapply the template's styles to documents that were created from that template. You cannot reapply content.

To edit a template:

1) From the Menu bar, choose **File > Templates > Manage** or press *Ctrl+Shift+N*. The Template Manager dialog opens.

2) Navigate to the template that you want to edit. Click once on it to activate the file handling controls (see Figure 50). Click **Edit**. The template opens in LibreOffice.

3) Edit the template just as you would any other document. To save your changes, choose **File > Save** from the Menu bar.

Updating a document from a changed template

If you make any changes to a template and its styles, the next time you open a document that was created from the template before the changes, a confirmation message is displayed.

To update the document:

1) Click **Update Styles** to apply the changed styles in the template to the document.

2) Select **Keep Old Styles** if you do not want to apply the changed styles in the template to the document (but see the Caution notice below).

> **Caution**
>
> If you choose **Keep Old Styles**, the document is no longer connected to the template, even though the template is still listed under **File > Properties > General.** You can still import styles manually from the template, but to reconnect it to the template, you will have to copy it into an empty document based on the template.

Adding templates obtained from other sources

LibreOffice refers to sources for templates as repositories. A repository can be local (a directory on your computer to which you have downloaded templates) or remote (a URL from which you can download templates).

You can get to the official template repository by using the **Get more templates for LibreOffice** button at the right-hand end of the Template Manager dialog, as shown in Figure 53, or by typing http://templates.libreoffice.org/template-center in your browser's address bar.

Figure 53: Getting more templates for LibreOffice

If you have enabled experimental features in **Tools > Options > LibreOffice > Advanced**, the Template Manager shows a **Repository** button that you can use to add other template repositories. As this is an experimental feature, it may not work reliably.

On other websites you may find collections of templates that have been packaged into extension (OXT) files. These are installed a little differently, as described below.

Installing individual templates

To install individual templates:

1) Download the template and save it anywhere on your computer.
2) Import the template into a template folder by following the instructions in "Importing a template" on page 77.

> **Tip**
>
> You can manually copy new templates into the template folders. The location varies with your computer's operating system. To learn where the template folders are stored on your computer, go to **Tools > Options > LibreOffice > Paths**.

Installing collections of templates

The Extension Manager provides an easy way to install collections of templates that have been packaged as extensions. Follow these steps:

1) Download the extension package (OXT file) and save it anywhere on your computer.
2) In LibreOffice, select **Tools > Extension Manager** from the Menu bar. In the Extension Manager dialog, click **Add** to open a file browser window.

3) Find and select the package of templates you want to install and click **Open**. The package begins installing. You may be asked to accept a license agreement.

4) When the package installation is complete, restart LibreOffice. The templates are available for use through **File > Templates > Manage** and **File > New > Templates** and the extension is listed in the Extension Manager.

See *Chapter 14 Customizing LibreOffice* for more about the Extension Manager.

Setting a default template

If you create a document by choosing **File > New > Text Document** (or **Spreadsheet**, **Presentation**, or **Drawing**) from the Menu bar, LibreOffice creates the document from the default template for that type of document. You can, however, change the default whenever you choose.

> **Note for Microsoft Word users**
>
> You may know that Microsoft Word employs a `normal.dot` or `normal.dotx` file for its default template and how to regenerate it.
>
> LibreOffice does not have a similar default template file; the "factory defaults" are embedded within the software.

Setting a template as the default

Most default settings, such as page size and page margins, can be changed in **Tools > Options**, but those changes apply only to the document you are working on. To make those changes the default settings for that document type, you need to replace the default template with a new one.

You can set any template displayed in the Template Manager dialog to be the default for that document type:

1) From the Menu bar, choose **File > Templates > Manage**.

2) In the Template Manager dialog, open the folder containing the template that you want to set as the default, then select the template.

3) Click the **Set as default** button above the list of templates (see Figure 50).

The next time that you create a document of that type by choosing **File > New,** the document will be created from this template.

Resetting the default template

To re-enable LibreOffice's original default template for a document type as the default for that type:

1) In the Template Manager dialog, click the **Action Menu** icon on the right.

2) Point to **Reset Default Template** on the drop-down menu, and click **Text Document** (or other template type).

These choices do not appear unless a custom template has been set as the default, as described in the previous section.

The next time that you create a document by choosing **File > New**, the document will be created from the original default template for the document type.

Figure 54: Resetting the default template for text documents

Associating a document with a different template

At the time of writing this chapter, LibreOffice has no direct method of changing the template that a document uses; the Template Changer extension has not been updated for this version of LibreOffice. However, you can copy the contents of a document into an empty document that uses a different template.

For best results, the names of styles should be the same in the existing document and the new template. If they are not, use **Edit > Find & Replace** to replace old styles with new ones. See *Chapter 4, Getting Started with Writer,* for more about replacing styles using Find & Replace.

To associate a document with another template:

1) Use **File > Templates > Manage** to open the Template Manager dialog, and select the template you want to use. A new document opens, containing any text or graphics that were in the template.

2) Delete any unwanted text or graphics from this new document.

3) Open the document you want to change. Select **Edit > Select All** or press *Ctrl+A*.

4) Select **Edit > Copy**, or press *Ctrl+C*, to copy the contents of the document to the clipboard.

5) Click inside the blank document created in step 1. Go to **Edit > Paste**, or press *Ctrl+V*, to paste the contents from the old document into the new one.

6) Update the table of contents, if there is one. Close the old file without saving. Go to **File > Save As** to save the new file with the name of the file from which content was taken. When asked, confirm that you want to overwrite the old file. You may prefer to save the new file under a new name and preserve the old file under its original name.

Caution

Any changes recorded (tracked) in the document will be lost during this process. The resulting document will contain only the changed text.

Organizing templates

LibreOffice can use only those templates that are in its template folders. You can create new template folders and use them to organize your templates. For example, you might have one template folder for report templates and another for letter templates. You can also import and export templates.

To begin, choose **File > Templates > Manage** to open the Template Manager dialog.

Creating a template folder

To create a template folder:

1) Go to the All Templates section of the Template Manager dialog.

2) Click the **New folder** button (see Figure 55).

3) In the pop-up dialog, type a name for the new folder and click **OK**.

Figure 55: Creating a new folder

Deleting a template folder

You cannot delete template folders supplied with LibreOffice. Nor can you delete any folders added by the Extension Manager unless you first delete the extension that installed them.

However, you can select a folder that you created and click the **Delete** button. When a message box appears, asking you to confirm the deletion, click **Yes.**

Moving a template

To move a template from one template folder to another, select it in the Template Manager dialog, and click the **Move to folder** button above the list of templates (see Figure 56).
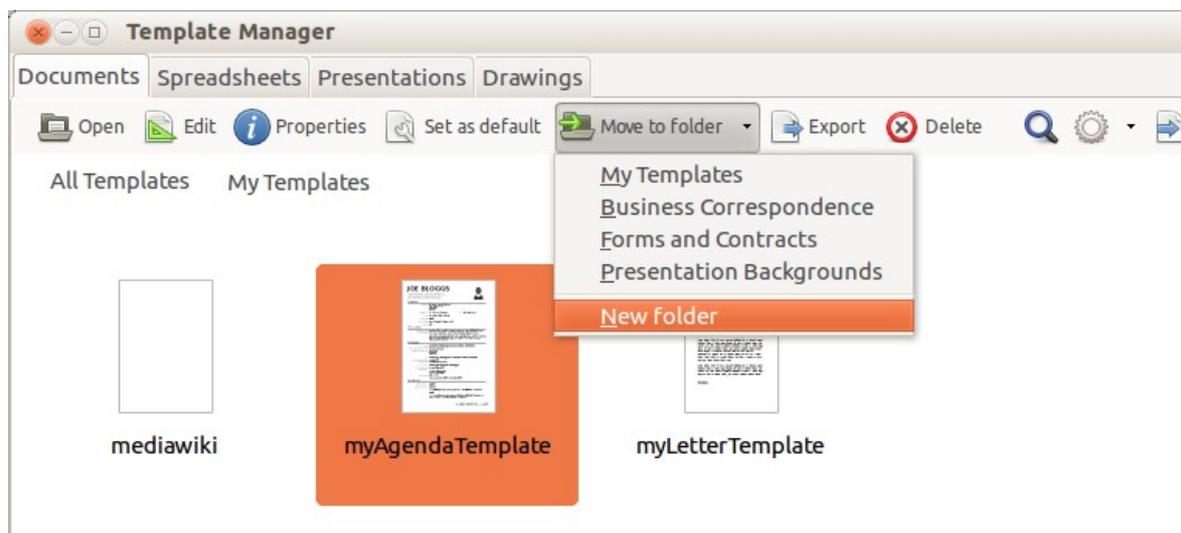
Figure 56: Template file handling icons

Deleting a template

You cannot delete templates supplied with LibreOffice. Nor can you delete any templates installed by the Extension Manager except by deleting the extension that installed them.

However, you can delete templates that you have created or imported:

1) In the Template Manager dialog, double-click the folder that contains the template you want to delete.

2) Select the template to delete.

3) Click the **Delete** button above the list of templates. A message box appears and asks you to confirm the deletion. Click **Yes.**

Importing a template

Before you can use a template in LibreOffice, it must be in one of the folders listed for the Template path in **Tools > Options > LibreOffice > Paths**:

1) In the Template Manager dialog, select the folder into which you want to import the template.
2) Click the **Import** button above the list of template folders. A standard file browser window opens.
3) Find and select the template that you want to import and click **Open.** The file browser window closes and the template appears in the selected folder.

Exporting a template

To export a template from a template folder to another location:

1) In the Template Manager dialog, double-click the folder that contains the template to export.
2) Select the template that you want to export.
3) Click the **Export** button above the list of template folders. The Save As window opens.
4) Find the folder into which you want to export the template and select **Save**.

Examples of style use

The following examples of common use of page and paragraph styles are taken from Writer. There are many other ways to use styles; see the guides for the various components for details.

Defining a different first page for a document

Many documents, such as letters and reports, have a first page that is different from the other pages in the document. For example, the first page of a letterhead typically has a different header, or the first page of a report might have no header or footer, while the other pages do. With LibreOffice, you can define the *page style* for the first page and specify the style for the following pages to be applied automatically.

As an example, we can use the *First Page* and *Default* page styles that come with LibreOffice. Figure 57 shows what we want to happen: the first page is to be followed by the default page, and all the following pages are to be in the *Default* page style. Details are in Chapter 4, Formatting Pages, in the *Writer Guide*.
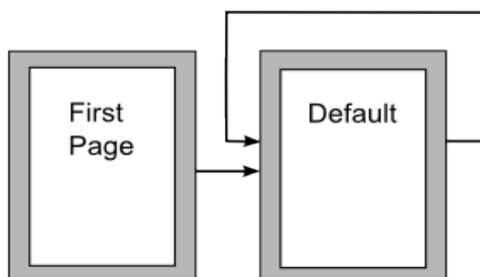
Figure 57: Flow of page styles

Dividing a document into chapters

In a similar way, you can divide a document into chapters. Each chapter might start with the *First Page* style, with the following pages using the *Default* page style, as above. At the end of the chapter, insert a manual page break and specify the next page to have the *First Page* style to start the next chapter, as shown in Figure 58.
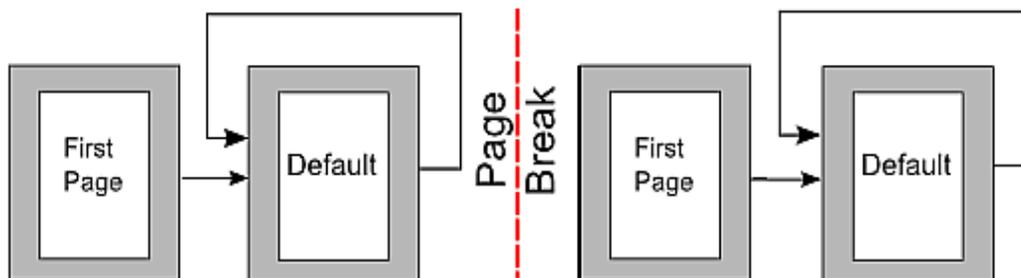
Figure 58: Dividing a document into chapters using page styles

Changing page orientation within a document

A Writer document can contain pages in more than one orientation. A common scenario is to have a landscape page in the middle of a document, whereas the other pages are in a portrait orientation. This setup can also be created with page breaks and page styles.

Displaying different headers on right and left pages

Page styles can be set up to have the facing left and right pages *mirrored* or only right (first pages of chapters are often defined to be right-page only) or only left. When you insert a header on a page style set up for mirrored pages or right-and-left pages, you can have the contents of the header be the same on all pages or be different on the right and left pages. For example, you can put the page number on the left-hand edge of the left pages and on the right-hand edge of the right pages, put the document title on the right-hand page only, or make other changes.

Controlling page breaks automatically

Writer automatically flows text from one page to the next. If you do not like the default settings, you can change them. For example, you can require a paragraph to start on a new page or column and specify the style of the new page. A typical use is for chapter titles to always start on a new right-hand (odd-numbered) page.

Compiling an automatic table of contents

To compile an automatic table of contents, first apply styles to the headings you want to appear in the contents list, then use **Tools > Outline Numbering** to tell Writer which styles go with which level in the table of contents. By default, tables of contents use Heading styles, but you can use whatever combination of styles you prefer. See Chapter 4 for more information.

Defining a sequence of paragraph styles

You can set up one paragraph style so that when you press *Enter* at the end of that paragraph, the following paragraph automatically has the style you wish applied to it. For example, you could define a *Heading 1* paragraph to be followed by a *Text Body* paragraph. A more complex example would be: *Title* followed by *Author* followed by *Abstract* followed by *Heading 1* followed by *Text Body*. By setting up these sequences, you can usually avoid having to apply styles manually.

Chapter 4
Getting Started with Writer

Word Processing with LibreOffice

What is Writer?

Writer is the word processor component of LibreOffice. In addition to the usual features of a word processor (spelling check, thesaurus, hyphenation, autocorrect, find and replace, automatic generation of tables of contents and indexes, mail merge and others), Writer provides these important features:

- Templates and styles (see Chapter 3)
- Page layout methods, including frames, columns, and tables
- Automated tables of contents and indexes
- Embedding or linking of graphics, spreadsheets, and other objects
- Built-in drawing tools
- Master documents—to group a collection of documents into a single document
- Change tracking during revisions
- Database integration, including a bibliography database
- Mail merge
- Export to PDF, including bookmarks (see Chapter 10)
- And many more

These features are covered in detail in the *Writer Guide*.

The Writer interface

The main Writer workspace is shown in Figure 59. The menus and toolbars are described in Chapter 1, Introducing LibreOffice.

Some other features of the Writer interface are covered in this chapter.
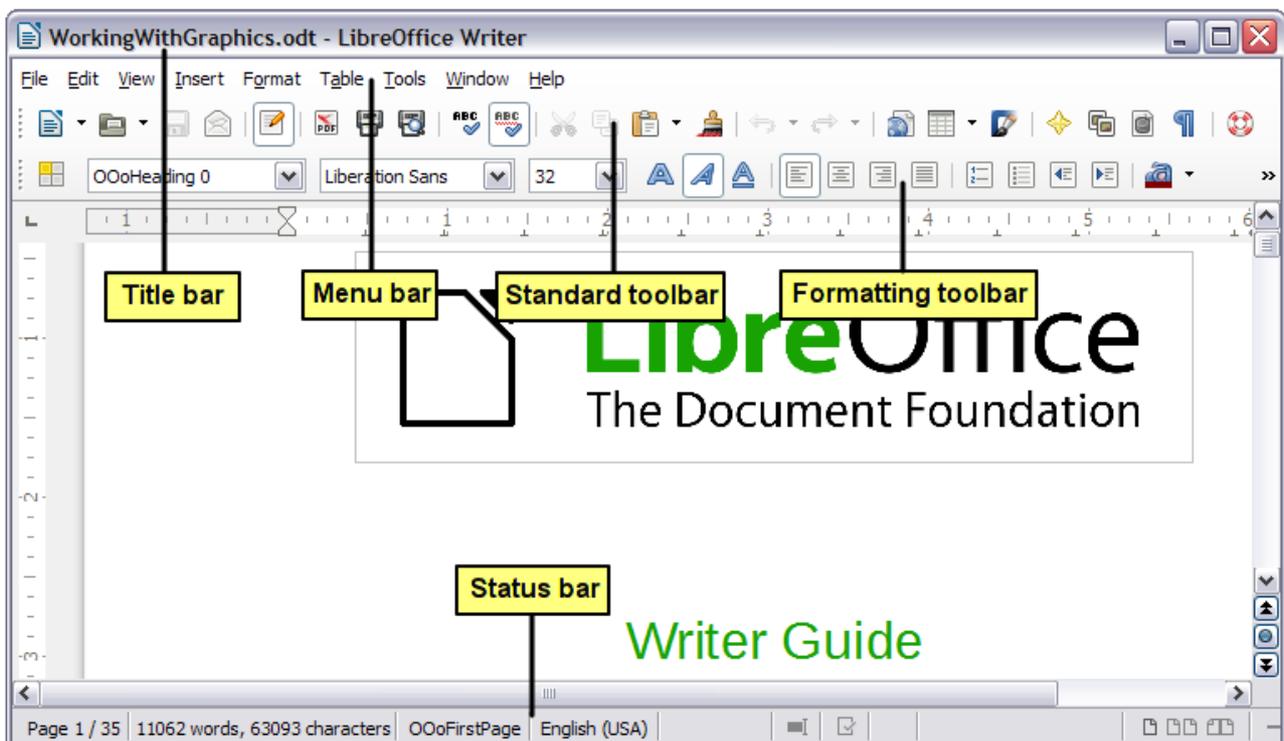
Figure 59: The main Writer workspace in Print Layout view (without the Sidebar)

Status Bar

The Writer Status Bar provides information about the document and convenient ways to change some document features quickly.
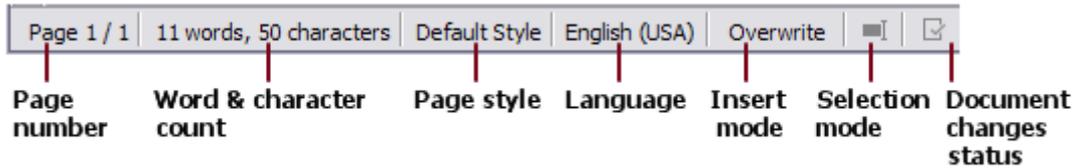
Figure 60: Left end of Status Bar
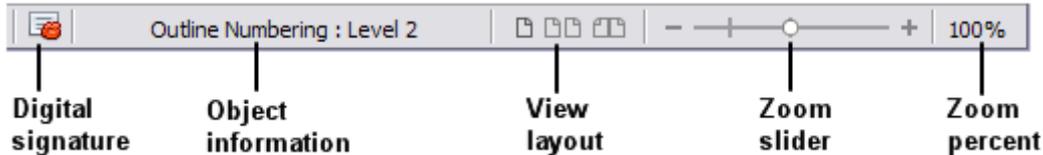
Figure 61: Right end of Status Bar

Page number

Shows the current page number, the sequence number of the current page (if different), and the total number of pages in the document. For example, if you restarted page numbering at 1 on the third page, its page number is 1 and its sequence number is 3.

If any bookmarks have been defined in the document, a right-click on this field pops up a list of bookmarks; click on the required one.

To jump to a specific page in the document, double-click on this field. The Navigator opens. Click in the Page Number field and type the *sequence* number of the required page and press *Enter*.

Word and character count

The word and character count of the document is shown in the Status Bar, and is kept up to date as you edit. Any text selected in the document will be counted and this count will replace the displayed count.

To display extended statistics such as character counts excluding spaces, double-click the word count in the Status Bar, or choose **Tools > Word Count.**

Page style

Shows the style of the current page. To change the page style, right-click on this field. A list of page styles pops up; choose a different style by clicking on it.

To edit the current page style, double-click on this field. The Page Style dialog opens.

Language

Shows the language at the cursor position, or for the selected text, that is used for checking spelling and for hyphenation and thesaurus.

Click to open a menu where you can choose another language for the selected text or for the paragraph where the cursor is located. You can also choose **None (Do not check spelling)**

to exclude the text from a spelling check or choose **More** to open the Character dialog. Any directly formatted language settings can be reset to the default language from this menu.

Insert mode

This area is blank when in Insert mode. Double-click to change to *Overwrite* mode; single-click to return to Insert mode. In Insert mode, any text after the cursor position moves forward to make room for the text you type; in Overwrite mode, text after the cursor position is replaced by the text you type. This feature is disabled when in **Edit > Changes > Record** mode.

Selection mode

Click to choose different selection modes. The icon does not change, but when you hover the mouse pointer over this field, a tooltip indicates which mode is active.

When you click in the field, a context menu displays the available options.

Mode	*Effect*
Standard selection	Click in the text where you want to position the cursor; click in a cell to make it the active cell. Any other selection is deselected.
Extending selection (*F8*)	Clicking in the text extends or crops the current selection.
Adding selection *(Shift+F8)*	A new selection is added to an existing selection. The result is a multiple selection.
Block selection *(Ctrl+Shift+F8)*	A block of text can be selected.

On Windows systems, you can hold down the *Alt* key while dragging to select a block of text. You do not need to enter the block selection mode.

Document changes status

The icon that is displayed here changes from this one ( ) if the document has no unsaved changes, to this one ( ) if it has been edited and the changes have not been saved.

Digital signature

If the document has been digitally signed, this icon ( ) is displayed here; otherwise, it is blank. To view the certificate, double-click the icon.

Section or object information

When the cursor is on a section, heading, or list item, or when an object (such as a picture or table) is selected, information about that item appears in this field. Double-clicking in this area opens a relevant dialog. For details, consult the Help or the *Writer Guide*.

View layout

Click an icon to change between single page, side-by-side, and book layout views. The effect varies with the combination of window width and zoom factor in use. You can edit the document in any view. See Figure 62.

Zoom

To change the view magnification, drag the Zoom slider, or click on the + and – signs, or right-click on the zoom level percent to pop up a list of magnification values from which to choose. Zoom interacts with the selected view layout to determine how many pages are visible in the document window.
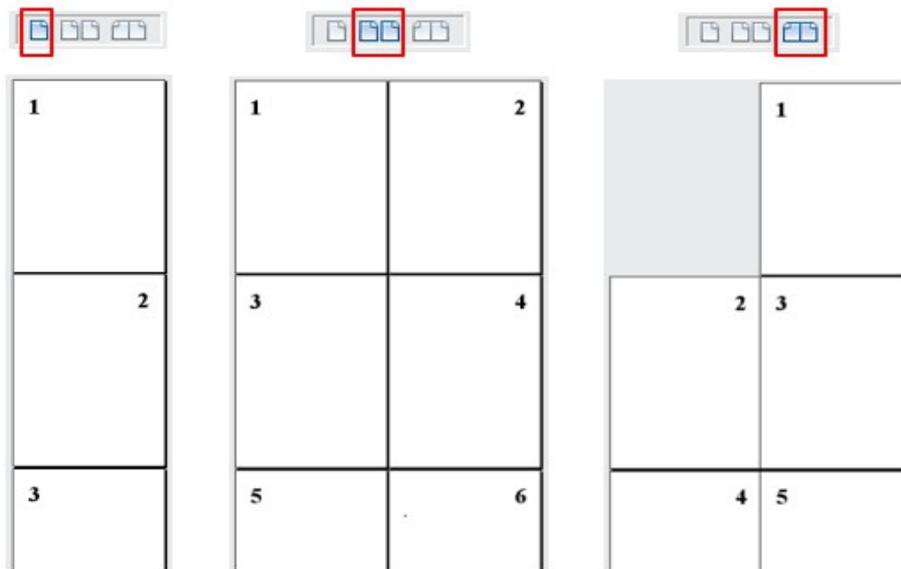
Figure 62: View layouts: single, side-by-side, book.

Sidebar

The Writer sidebar (**View > Sidebar**) is located on the right side of the edit view. It is a mixture of toolbar and dialog and consists of four decks: Properties, Styles and Formatting, Gallery, and Navigator. Each deck has a corresponding icon on the Tab panel to the right of the sidebar, allowing you to switch between them.

Each deck consists of a title bar and one or more content panels. Toolbars and sidebar panels share many functions. For example, the buttons for making text bold or italic exist in both the Formatting toolbar and the Character panel of the Properties deck.

Some panels contain a **More Options** button (⬚) which when clicked opens a dialog to give greater choice of editing controls. The dialog that opens locks the document for editing until the dialog is closed.

The decks are described below.

- **Properties**: Contains tools for direct formatting within the document. By default, the tools are separated into the following three panels for text editing:

  – *Character*: Modify text by the font type, size, color, weight, style and spacing.

  – *Paragraph*: Style the paragraph by alignment, lists or bullets, background color, indent, and spacing.

  – *Page*: Format the page by orientation, margin, size, and number of columns.

  If a graphic is selected, then the following panels open:

  – Graphic: Modify the graphic's brightness, contrast, color mode and transparency.

  – Position: Modifications to width and height.

  – Wrap: Permits wrap modifications where these are available.

  If a drawing object is selected, then the following panels are available:

  – Area: Fill and transparency edits are available.

  – Line: Permits edits to the line style, width, color, arrows, corners and cap styles.

  – Position and Size: Enables edits to width, height, rotation and flip attributes.

If a frame is selected, then the wrap panel opens but may be grayed-out if frame wrap is not available.

Caution

Be aware that by changing the options on the Page panel you will change the page style in use, modifying not only the current page but all pages using the same page style.

- **Styles and Formatting**: Manage the styles used on the document, applying existing styles, creating new ones or modifying them. This deck is also a floating toolbar that can be accessed from **Format > Styles and Formatting** from the Menu bar.

- **Gallery**: Add images and diagrams included in the Gallery themes. The Gallery displays as two sections; the first lists the themes by name (Arrows, Background, Diagrams, etc.) and the second displays the images in the selected category. Select the **New Theme** button to create new categories. To insert an image into a file, or add a new image to the new category, just drag and drop the selected image using the file manager. This deck is also a docked toolbar that can be accessed from **Tools > Gallery** or the **Gallery** button on the Standard Toolbar.

- **Navigator**: Browse the document and reorganize its content by selecting different content categories, such as headings, tables, frames, graphics, etc. This deck is similar to the floating toolbar that can be accessed from **View > Navigator** or the **Navigator** button on the Standard Toolbar. In contrast, the Sidebar Navigator does not contain a **List Box On/Off** button.
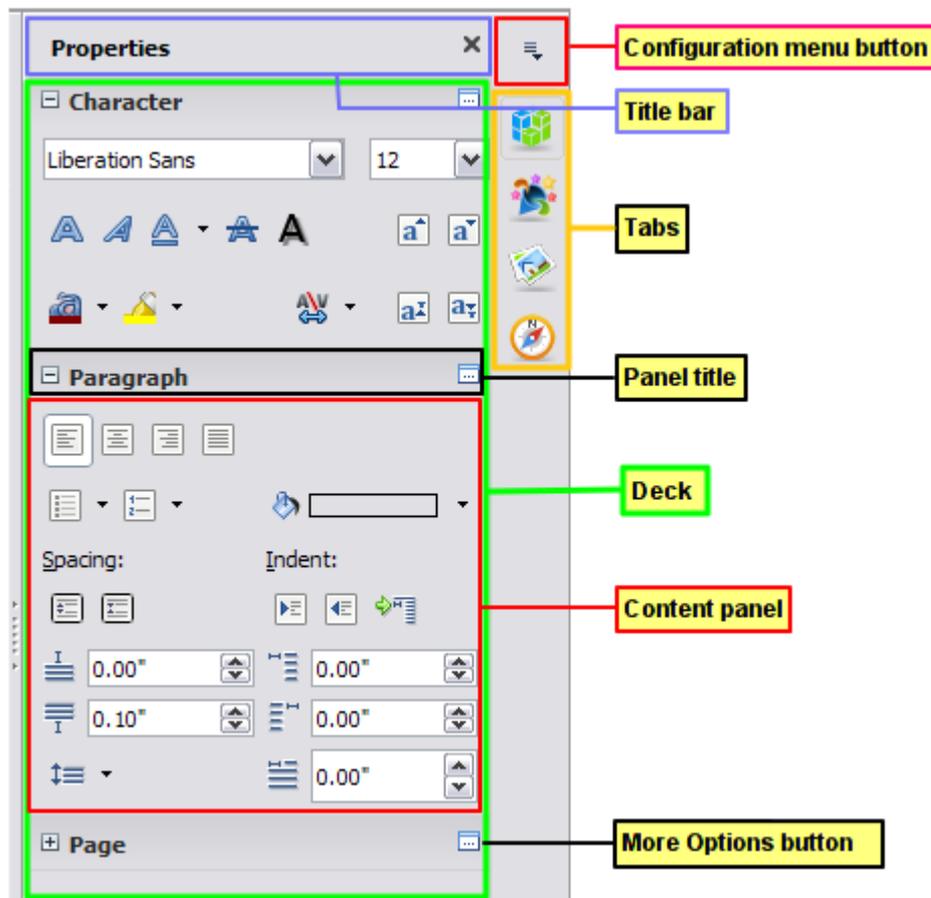
Figure 63: Sidebar Properties deck and text content panels

Changing document views

Writer has several ways to view a document: Print Layout, Web Layout, and Full Screen. To access these and other choices, go to the **View** menu and click on the required view. (When in Full Screen view, press the *Esc* key to return to either Print or Web Layout view.)

Print Layout is the default view in Writer. In this view, you can use the Zoom slider and the View Layout icons on the Status Bar to change the magnification.

You can also choose **View > Zoom > Zoom** from the menu bar to display the Zoom & View Layout dialog, where you can set the same options as on the Status Bar. In Web Layout view, most of the choices are not available.
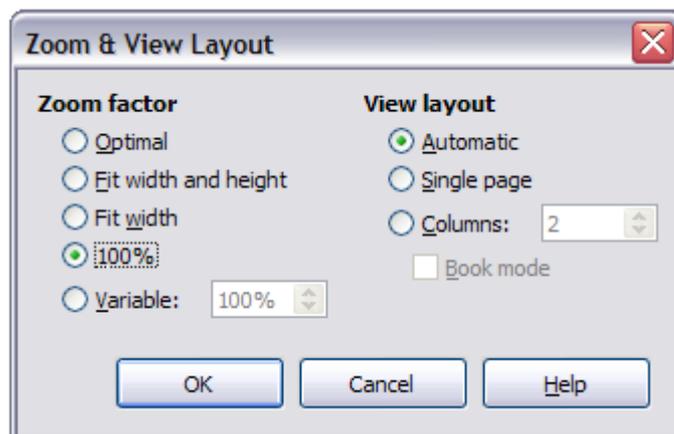
Figure 64: Choosing Zoom and View Layout options.

Moving quickly through a document

In addition to the navigation features of the Status Bar (described above), you can use the Navigator window and the Navigation toolbar, either from the Standard toolbar or from the Sidebar, as described in Chapter 1, Introducing LibreOffice.

The Navigation toolbar (Figure 65) shows buttons for all the object types shown in the Navigator, plus some extras (for example, the **Find** command).
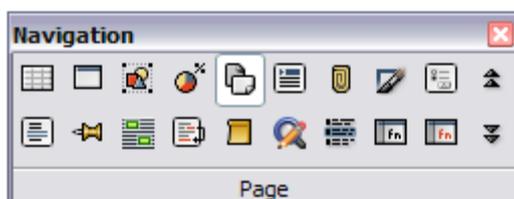
Figure 65: Navigation toolbar

Click a button to select that object type. Now all the **Previous** and **Next** button presses (in the Navigator itself, in the Navigation Toolbar, and on the scroll bar) will jump to the next object of the selected type. This is particularly helpful for finding items like index entries, which can be difficult to see in the text. The names of the buttons (shown in the tooltips) change to match the selected category; for example, **Next Graphic**, **Next Bookmark**, or **Continue search forward**.

For more uses of the Navigator in Writer, see the *Writer Guide*.

Working with documents

Chapter 1, Introducing LibreOffice, includes instructions on starting new documents, opening existing documents, saving documents, and password-protecting documents. Chapter 3, Using Styles and Templates, covers how to create a document from a template.

Saving as a Microsoft Word file

If you need to exchange documents with users of Microsoft Word who are unwilling or unable to receive ODT files, you can open, edit, and save documents in Microsoft Word formats.

You can also create and edit ODT files and then save them as DOC or DOCX files. To do this:

1) **Important**—First save your document in the file format used by LibreOffice Writer (ODT). If you do not, any changes you made since the last time you saved will appear only in the Microsoft Word version of the document.

2) Then choose **File > Save As**. On the Save As dialog (Figure 66), in the **File type** (or **Save as type**) drop-down menu, select the type of Word format you need. Files cannot be saved to the Word version 6.0/95 file format. Click **Save.**

From this point on, *all changes you make to the document will occur only in the new document*. You have changed the name and file type of your document. If you want to go back to working with the ODT version of your document, you must open it again.
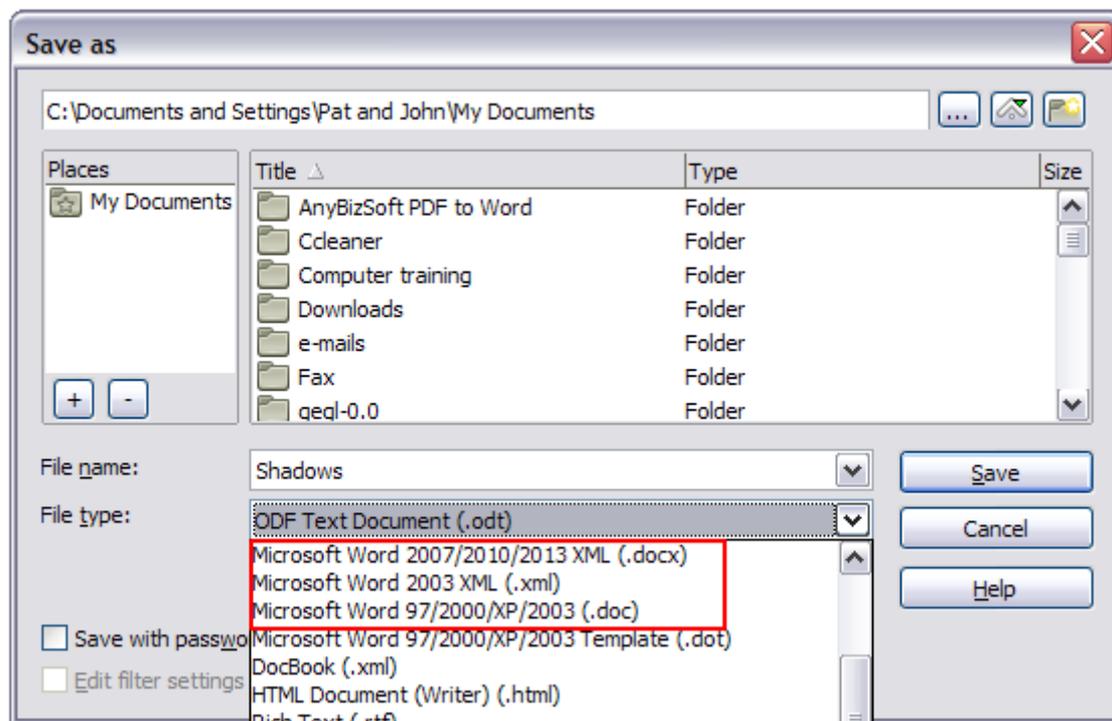
Figure 66: Saving a file in Microsoft Word format

▶ Tip

Saving in ODF format gives you the option to redo the document if the recipient of your document experiences trouble with the Microsoft format.

> **Tip**
>
> To have Writer save documents by default in the Microsoft Word file format, go to **Tools > Options > Load/Save > General**. In the section named *Default file format and ODF settings*, under **Document type**, select **Text document,** then under *Always save as*, select your preferred file format. See Figure 67.
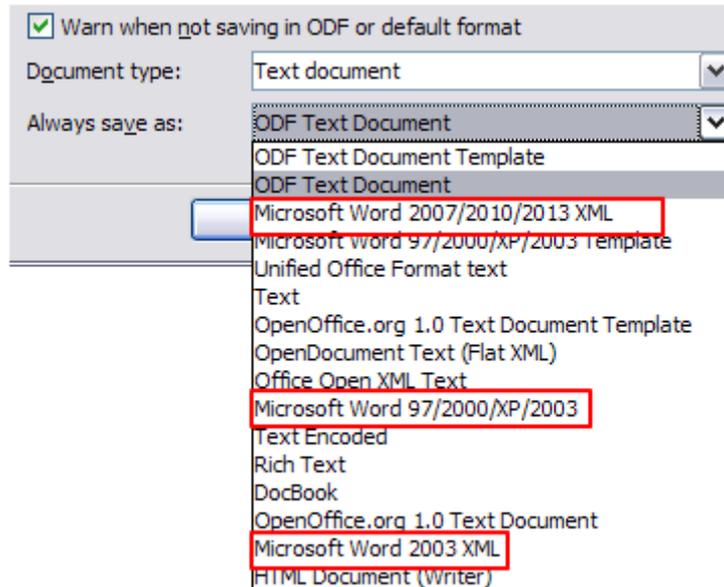
Figure 67: Tools > Options > Load/Save > General page

Working with text

Working with text (selecting, copying, pasting, moving) in Writer is similar to working with text in any other program. LibreOffice also has some convenient ways to select items that are not next to each other, select a vertical block of text, and paste unformatted text.

Selecting items that are not consecutive

To select nonconsecutive items (as shown in Figure 68) using the mouse:

1) Select the first piece of text.

2) Hold down the *Ctrl* key and use the mouse to select the next piece of text.

3) Repeat as often as needed.

Now you can work with the selected text (copy it, delete it, change the style, or whatever).

> **Note**
>
> Macintosh users: substitute the *Command* key when instructions in this chapter say to use the *Ctrl* key.

Figure 68: Selecting items that are not next to each other

To select nonconsecutive items using the keyboard:

1) Select the first piece of text. (For more information about keyboard selection of text, see the topic "Navigating and selecting with the keyboard" in the Help.)

2) Press *Shift+F8*. This puts Writer in "Adding selection" mode.

3) Use the arrow keys to move to the start of the next piece of text to be selected. Hold down the *Shift* key and select the next piece of text.

4) Repeat as often as required.

Now you can work with the selected text.

Press *Esc* to exit from this mode.

Selecting a vertical block of text

You can select a vertical block or "column" of text that is separated by spaces or tabs (as you might see in text pasted from e-mails, program listings, or other sources), using LibreOffice's block selection mode. To change to block selection mode, use **Edit > Selection Mode > Block Area**, or press *Ctrl+F8*, or click on the **Selection** icon in the Status Bar and select **Block selection** from the list.
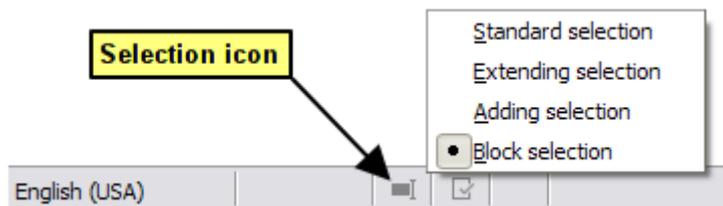
Now highlight the selection, using mouse or keyboard, as shown below.

Figure 69: Selecting a vertical block of text

Cutting, copying, and pasting text

Cutting and copying text in Writer is similar to cutting and copying text in other applications. You can use the mouse or the keyboard for these operations. You can copy or move text within a document, or between documents, by dragging or by using menu selections, toolbar buttons, or keyboard shortcuts. You can also copy text from other sources such as Web pages and paste it into a Writer document.

To *move* (drag and drop) selected text using the mouse, drag it to the new location and release it. To *copy* selected text, hold down the *Ctrl* key while dragging. The text retains the formatting it had before dragging.

To *move* (cut and paste) selected text, use *Ctrl+X* to cut the text, insert the cursor at the paste-in point and use *Ctrl+V* to paste. Alternatively, use the buttons on the **Standard** toolbar.

When you paste text, the result depends on the source of the text and how you paste it. If you click on the **Paste** button, any formatting the text has (such as bold or italics) is retained. Text pasted from Web sites and other sources may also be placed into frames or tables. If you do not like the results, click the **Undo** button or press *Ctrl+Z*.

To make the pasted text take on the formatting of the surrounding text where it is being pasted:

- Choose **Edit > Paste Special**, or
- Click the arrow button of the combination **Paste** button, or
- Click the **Paste** button without releasing the left mouse button.

Then select **Unformatted text** from the resulting menu.

The range of choices on the Paste Special menu varies depending on the origin and formatting of the text (or other object) to be pasted. See Figure 70 for an example with text on the clipboard.
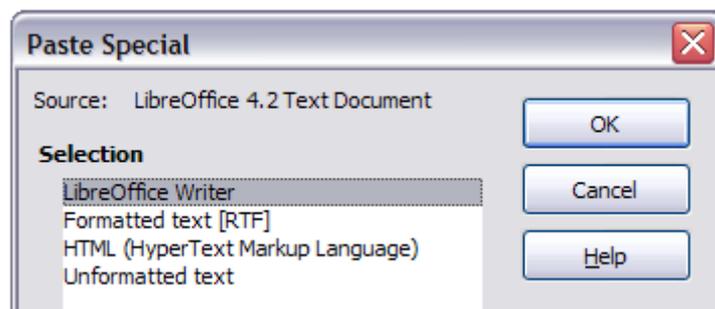
Figure 70: Paste Special menu

Finding and replacing text and formatting

Writer has two ways to find text within a document: the Find toolbar for fast searching and the Find & Replace dialog. In the dialog, you can:

- Find and replace words and phrases
- Use wildcards and regular expressions to fine-tune a search
- Find and replace specific attributes or formatting
- Find and replace paragraph styles

Using the Find toolbar

If the Find toolbar is not visible, you can display it by choosing **View > Toolbars > Find** from the Menu bar or by pressing *Ctrl+F*. The Find toolbar is shown docked at the bottom of the LibreOffice

window (just above the Status Bar) in Figure 71, but you can float it or dock it in another location. For more information on floating and docking toolbars, see Chapter 1, Introducing LibreOffice.
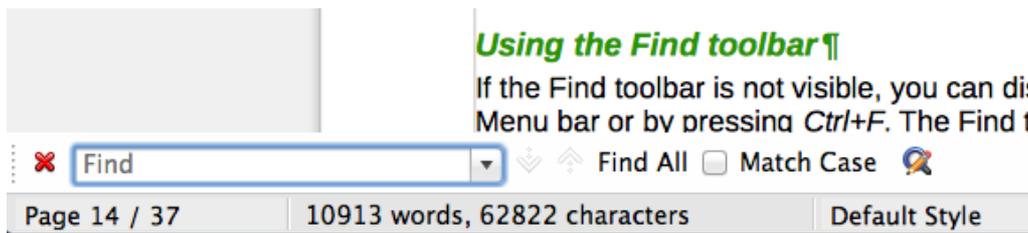
Figure 71: Docked position of Find toolbar

To use the Find toolbar, click in the box and type your search text, then press *Enter* to find the next occurrence of that term from the current cursor position. Click the **Find Next** or **Find Previous** buttons as needed.

Click the **Find All** button to select all instances of the search term within the document. Select **Match Case** to find only the instances that exactly match the search term. Select the button to the right of Match Case to open the Find & Replace dialog.

The Find toolbar can be closed by clicking the red X button on the left, or by pressing *Esc* on the keyboard when the text cursor is in the search box.

Using the Find & Replace dialog

To display the Find & Replace dialog, use the keyboard shortcut *Ctrl+H* or choose **Edit > Find & Replace** from the Menu bar. If the Find toolbar is open, click the Find and Replace button (🔍) on the toolbar. Once opened, optionally click the **Other Options** symbol to expand the dialog. Click the button again to reduce the dialog options.

To use the Find & Replace dialog:

1) Type the text you want to find in the **Search for** box.

2) To replace the text with different text, type the new text in the **Replace with** box.

3) You can select various options such as matching the case, matching whole words only, or doing a search for similar words.

4) When you have set up your search, click **Find**. To replace the found text, click **Replace.**

For more information on using Find & Replace, see the *Writer Guide*.

⯈ **Tip**

If you click **Find All**, LibreOffice selects all instances of the search text in the document. Similarly, if you click **Replace All**, LibreOffice replaces all matches.

▨ **Caution**

Use **Replace All** with caution; otherwise, you may end up with some hilarious (and highly embarrassing) mistakes. A mistake with **Replace All** might require a manual, word-by-word, search to fix.
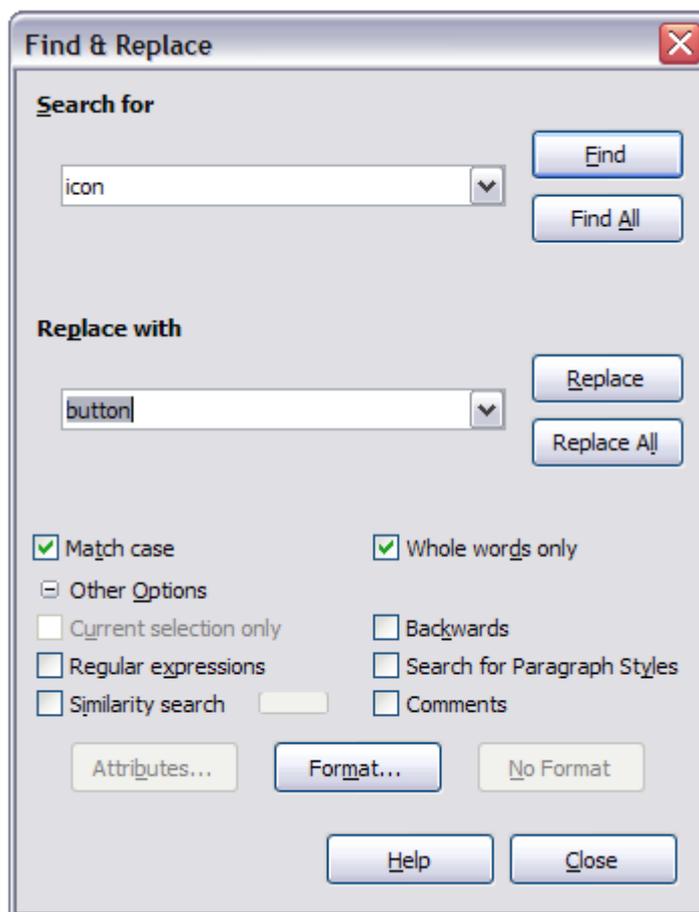
Figure 72: Expanded Find & Replace dialog

Inserting special characters

A *special character* is one not found on a standard English keyboard. For example, © ¾ æ ç ñ ö ø ¢ are all special characters. To insert a special character:

1) Place the cursor where you want the character to appear.

2) Choose **Insert > Special Character** to open the Special Characters dialog.

3) Select the characters (from any font or mixture of fonts) you wish to insert, in order, then click **OK**. The characters selected for insertion are shown in the lower left of the dialog. As you select a character, it is shown on the right, along with its numerical code.

Note

Different fonts include different special characters. If you do not find a particular special character, try changing the *Font* selection.
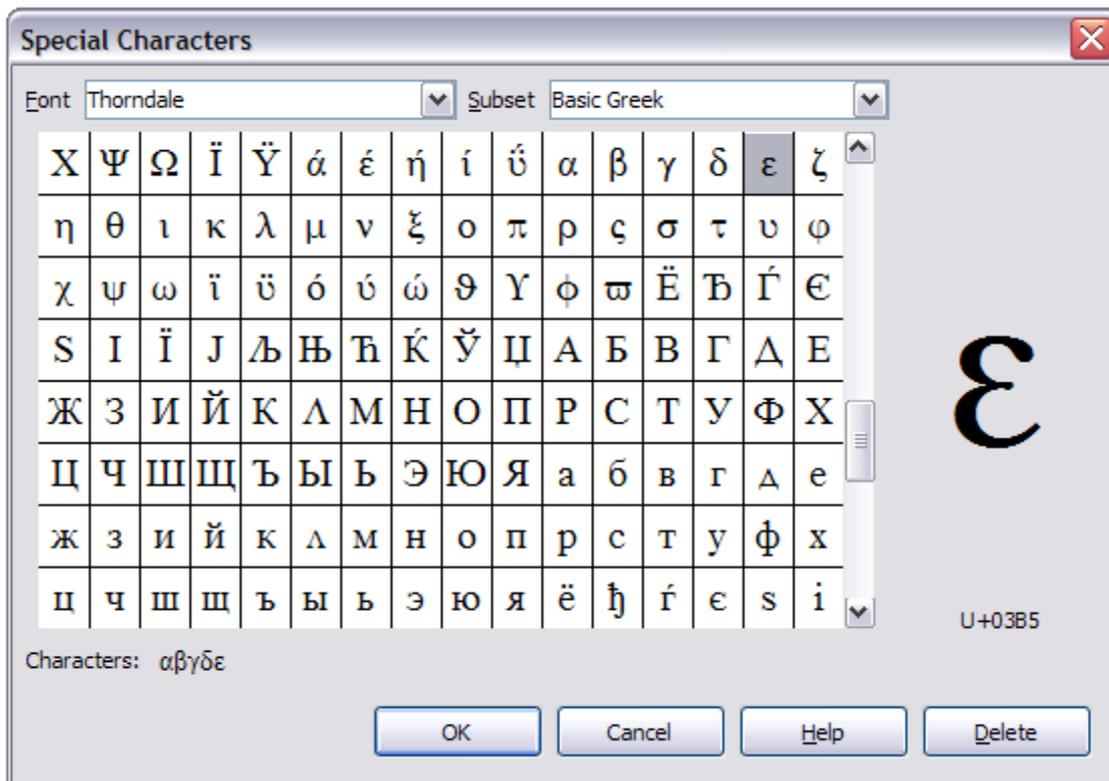
Figure 73: The Special Characters dialog, where you can insert special characters

Inserting dashes and non-breaking spaces and hyphens

To prevent two words from being separated at the end of a line, press *Ctrl+Shift* when you type the space between the two words.

In cases where you do not want the hyphen to appear at the end of a line, for example in a number such as 123-4567, you can press *Shift+Ctrl+minus sign* to insert a non-breaking hyphen.

To enter en and em dashes, you can use the *Replace dashes* option on the Options tab under **Tools > AutoCorrect Options**. This option replaces two hyphens, under certain conditions, with the corresponding dash.

– is an en-dash; that is, a dash the width of the letter "n" in the font you are using. Type at least one character, a space, one or two hyphens, another space, and at least one more letter. The one or two hyphens will be replaced by an en-dash.

— is an em-dash; that is, a dash the width of the letter "m" in the font you are using. Type at least one character, two hyphens, and at least one more character. The two hyphens will be replaced by an em-dash.

See the Help for more details. For other methods of inserting dashes, see *Chapter 3, Working with Text* in the *Writer Guide*.

Setting tab stops and indents

The horizontal ruler shows the tab stops. Any tab stops that you have defined will overwrite the default tab stops. Tab settings affect indentation of full paragraphs (using the **Increase Indent** and **Decrease Indent** buttons on the Formatting toolbar) as well as indentation of parts of a paragraph (by pressing the *Tab* key on the keyboard).

Using the default tab spacing can cause formatting problems if you share documents with other people. If you use the default tab spacing and then send the document to someone else who has

chosen a different default tab spacing, tabbed material will change to use the other person's settings. Instead of using the defaults, define your own tab settings, as described in this section.

To define indents and tab settings for one or more selected paragraphs, double-click on a part of the ruler that is not between the left and right indent icons to open the *Indents & Spacing* page of the Paragraph dialog. Double-click anywhere between the left and right indent icons on the ruler to open the *Tabs* page of the Paragraph dialog.

A better strategy is to define tabs for the paragraph *style*. See Chapters 6 and 7 in the *Writer Guide* for more information.

> ▶ **Tip**
>
> Using tabs to space out material on a page is not recommended. Depending on what you are trying to accomplish, a table is usually a better choice.

Changing the default tab stop interval

> **Caution**
>
> Any changes to the default tab setting will affect the existing default tab stops in any document you open afterward, as well as tab stops you insert after making the change.

To set the measurement unit and the spacing of default tab stop intervals, go to **Tools > Options > LibreOffice Writer > General**.
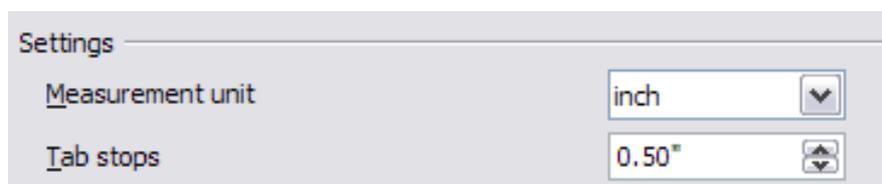
Figure 74: Selecting a default tab stop interval

You can also set or change the measurement unit for rulers in the current document by right-clicking on the ruler to open a list of units. Click on one of them to change the ruler to that unit. The selected setting applies only to that ruler.
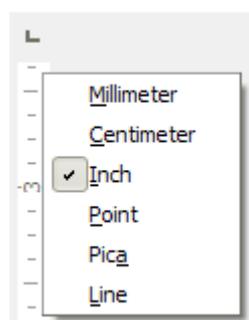
Figure 75: Changing the measurement unit for a ruler

Checking spelling and grammar

Writer provides a spelling checker, which can be used in two ways.

AutoSpellcheck checks each word as it is typed and displays a wavy red line under any unrecognized words. When the word is corrected, the line disappears.

To perform a combined spelling and grammar check on the document (or a text selection) click the **Spelling and Grammar** button. This checks the document or selection and opens the Spelling and Grammar dialog if any unrecognized words are found. In order to use this, the appropriate dictionaries must be installed. By default, four dictionaries are installed: a spellchecker, a grammar checker, a hyphenation dictionary, and a thesaurus.

Here are some more features of the spelling checker:

- You can right-click on a word with a wavy underline to open a context menu. If you select from the suggested words on the menu, the selection will replace the unrecognized word in your text. Other menu options are discussed below.

- You can change the dictionary language (for example, Spanish, French or German) on the Spelling and Grammar dialog.

- You can add a word to the dictionary. Click **Add to Dictionary** in the Spelling and Grammar dialog or in the context menu.

- Click the **Options** button on the Spelling and Grammar dialog to open a dialog similar to the one in **Tools > Options > Language Settings > Writing Aids** described in Chapter 2. There you can choose whether to check uppercase words and words with numbers, and you can manage custom dictionaries, that is, add or delete dictionaries and add or delete words in a dictionary.

- There are a number of different methods by which you can set paragraphs to be checked in a specific language (different from the rest of the document). For example by clicking on the Language button on the Status Bar. See Chapter 7, Working with Styles, in the *Writer Guide* for more information.

See Chapter 3, Working with Text, in the *Writer Guide,* for a detailed explanation of the spelling and grammar checking facility.

Using built-in language tools

Writer provides some tools that make your work easier if you mix multiple languages within the same document or if you write documents in various languages.

The main advantage of changing the language for a text selection is that you can then use the correct dictionaries to check spelling and apply the localized versions of Autocorrect replacement tables, thesaurus, grammar, and hyphenation rules.

You can also set the language for a paragraph or a group of characters as **None (Do not check spelling)**. This option is especially useful when you insert text such as web addresses or programming language snippets that you do not want to check for spelling.

Specifying the language in character and paragraph styles can be problematic unless you use a particular style for a different language. Changing the Language on the Font tab of the Paragraph Styles dialog, will change the language for all paragraphs that use that paragraph style. You can set certain paragraphs be checked in a language that is different from the language of the rest of the document by putting the cursor in the paragraph and changing the language on the Status Bar. See Chapter 7, Working with Styles, in the *Writer Guide* for information on how to manage the language settings of a style.

You can also set the language for the whole document, for individual paragraphs, or even for individual words and characters, from **Tools > Language** on the Menu bar.

Another way to change the language of a whole document is to use **Tools > Options > Language Settings > Languages**. In the *Default languages for documents* section, you can choose a different language for all the text that is not explicitly marked as a different language.

The spelling checker works only for those languages in the list that have the symbol ( ) next to them. If you do not see the symbol next to your preferred language, you can install the additional dictionary using **Tools > Language > More Dictionaries Online**.

The language used for checking spelling is also shown in the Status Bar, next to the page style in use.

Using AutoCorrect

Writer's AutoCorrect function has a long list of common misspellings and typing errors, which it corrects automatically. For example, "hte" will be changed to "the".

AutoCorrect is turned on when Writer is installed. To turn it off, uncheck **Format > AutoCorrect > While Typing**.

Choose **Tools > AutoCorrect Options** to open the AutoCorrect dialog. There you can define which strings of text are corrected and how. In most cases, the defaults are fine.

To stop Writer replacing a specific spelling, go to the **Replace** tab, highlight the word pair, and click **Delete**.

To add a new spelling to the list, type it into the *Replace* and *With* boxes on the Replace tab, and click **New**.

See the different tabs of the dialog for the wide variety of other options available to fine-tune AutoCorrect.

> ### ▶ Tip
> AutoCorrect can be used as a quick way to insert special characters. For example, (c) will be changed to ©. You can add your own special characters.

Using word completion

If Word Completion is enabled, Writer tries to guess which word you are typing and offers to complete the word for you. To accept the suggestion, press *Enter*. Otherwise, continue typing.

To turn off Word Completion, select **Tools > AutoCorrect Options > Word Completion** and deselect **Enable word completion**.

You can customize word completion from the *Word Completion* page of the AutoCorrect dialog:

- Add (append) a space automatically after an accepted word
- Show the suggested word as a tip (hovering over the word) rather than completing the text as you type
- Collect words when working on a document, and then either save them for later use in other documents or select the option to remove them from the list when closing the document.
- Change the maximum number of words remembered for word completion and the length of the smallest words to be remembered
- Delete specific entries from the word completion list
- Change the key that accepts a suggested entry—the options are *Right arrow*, *End* key, *Return* (*Enter*), and *Space bar*

Note

Automatic word completion only occurs after you type a word for the second time in a document.

Using AutoText

Use AutoText to store text, tables, graphics and other items for reuse and assign them to a key combination for easy retrieval. For example, rather than typing "Senior Management" every time you use that phrase, you can set up an AutoText entry to insert those words when you type "sm" and press *F3*.

AutoText is especially powerful when assigned to fields. See Chapter 14, Working with Fields, in the *Writer Guide* for more information.

Creating AutoText

To store some text as AutoText:

1) Type the text into your document.

2) Select the text.

3) Choose **Edit > AutoText** (or press *Ctrl+F3*).

4) In the AutoText dialog, type a name for the AutoText in the *Name* box. Writer will suggest a one-letter shortcut, which you can change.

5) In the large box to the left, choose the category for the AutoText entry, for example *My AutoText*.

6) Click the **AutoText** button on the right and select **New (text only)** from the menu.

7) Click **Close** to return to your document.

Tip

If the only option under the AutoText button is Import, either you have not entered a name for your AutoText or there is no text selected in the document.

Inserting AutoText

To insert AutoText, type the shortcut and press *F3*.

Formatting text

Using styles is recommended

Styles are central to using Writer. Styles enable you to easily format your document consistently, and to change the format with minimal effort. A style is a named set of formatting options. When you apply a style, you apply a whole group of formats at the same time. In addition, styles are used by LibreOffice for many processes, even if you are not aware of them. For example, Writer relies on heading styles (or other styles you specify) when it compiles a table of contents.

Caution

Manual formatting (also called *direct formatting*) overrides styles, and you cannot get rid of the manual formatting by applying a style to it.

> **Tip**
>
> To remove manual formatting, select the text and choose **Format > Clear Direct Formatting** from the Menu bar, or right-click and choose **Clear Direct Formatting** from the context menu, or click the **Clear Direct Formatting** button on the Formatting toolbar, or use *Ctrl+M* from the keyboard.

Writer defines several types of styles, for different types of elements: characters, paragraphs, pages, frames, and lists. See Chapter 3, Using Styles and Templates, in this book and Chapters 6 and 7 in the *Writer Guide*.

Formatting paragraphs

You can apply many formats to paragraphs using the buttons on the Formatting toolbar and by using the Paragraph panel of the Sidebar's Properties deck. Not all buttons are visible in a standard installation, but you can customize the toolbar to include those you use regularly. These buttons and formats include:

- Apply Style
- Bullets On/Off (with a palette of bullet styles)
- Numbering On/Off (with a palette of numbering styles)
- Align Left, Center Horizontally, Align Right, or Justified
- Align Top, Center Vertically, Align Bottom
- Line Spacing (choose from 1, 1.15, 1.5, 2, or custom spacing
- Increase Paragraph Spacing, Decrease Paragraph Spacing
- Increase Indent, Decrease Indent
- Paragraph (to open the Paragraph dialog)

Formatting characters

You can apply many formats to characters using the buttons on the Formatting toolbar and by using the Character panel of the Sidebar's Properties deck. Not all buttons are visible in a standard installation, but you can customize the toolbar to include those you use regularly. These buttons and formats include:

- Font Name, Font Size
- Bold, Italic, Underline, Double Underline, Overline, Strikethrough, Outline
- Superscript, Subscript
- Uppercase, Lowercase
- Increase Font Size, Decrease Font Size
- Font Color (with a palette of colors)
- Background Color (with a palette of colors)
- Highlighting (with a palette of colors)
- Character (to open the Character dialog)

Autoformatting

You can set Writer to format parts of a document automatically according to the choices made on the Options page of the AutoCorrect dialog (**Tools > AutoCorrect Options**).

> **Tip**
>
> If you notice unexpected formatting changes occurring in your document, this is the first place to look for the cause.

The Help describes each of these choices and how to activate the autoformats. Some common unwanted or unexpected formatting changes include:

- Horizontal lines. If you type three or more hyphens (---), underscores (___) or equal signs (===) on a line and then press *Enter*, the paragraph is replaced by a horizontal line as wide as the page. The line is actually the lower border of the preceding paragraph.

- Bulleted and numbered lists. A bulleted list is created when you type a hyphen (-), star (*), or plus sign (+), followed by a space or tab at the beginning of a paragraph. A numbered list is created when you type a number followed by a period (.), followed by a space or tab at the beginning of a paragraph. Automatic numbering is only applied to paragraphs formatted with the *Default*, *Text body* or *Text body indent* paragraph styles.

To turn autoformatting on or off, choose **Format > AutoCorrect** and select or deselect the items on the list.

Creating numbered or bulleted lists

There are several ways to create numbered or bulleted lists:

- Use autoformatting, as described above.

- Use list (numbering) styles, as described in Chapter 6, Introduction to Styles, and Chapter 7, Working with Styles, in the *Writer Guide*.

- Use the Numbering and Bullets buttons on the Formatting toolbar or on the Paragraph panel of the Sidebar's Properties deck: select the paragraphs for the list, and then click the appropriate button on the toolbar or in the Sidebar.

> **Note**
>
> It is a matter of personal preference whether you type your information first, then apply numbering/bullets, or apply them as you type.

Using the Bullets and Numbering toolbar

You can create nested lists (where one or more list items has a sub-list under it, as in an outline) by using the buttons on the Bullets and Numbering toolbar (Figure 76). You can move items up or down the list, create sub-points, change the style of bullets, and access the Bullets and Numbering dialog, which contains more detailed controls. Use **View > Toolbars > Bullets and Numbering** to see the toolbar.

> **Note**
>
> If numbering or bullets are being applied automatically in a way that you find inappropriate, you can switch them off temporarily by unchecking **Format > AutoCorrect > While Typing**.

Using the Sidebar for Bullets and Numbering

The Bullets and Numbering features (drop-down palettes of tools) on the Paragraph panel on the Properties deck of the Sidebar can also be used to create nested lists and access the Bullets and

Numbering dialog. However, the Sidebar does not include tools for promoting and demoting items in the list, as found on the Bullets and Numbering toolbar.
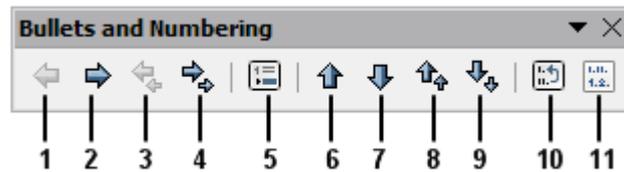
1 Promote One Level
2 Demote One Level
3 Promote One Level with Subpoints
4 Demote One Level with Subpoints
5 Insert Unnumbered Entry
6 Move Up
7 Move Down
8 Move Up with Subpoints
9 Move Down with Subpoints
10 Restart Numbering
11 Bullets and Numbering

Figure 76: Bullets and Numbering toolbar

Hyphenating words

You have several choices regarding hyphenation: let Writer do it automatically (using its hyphenation dictionaries), insert conditional hyphens manually where necessary, or don't hyphenate at all.

Automatic hyphenation

To turn automatic hyphenation of words on or off:

1) Press *F11* (⌘+*T* on Mac) to open the Styles and Formatting window, or, if the Sidebar is open, click on the **Styles and Formatting** tab to open the Styles and Formatting deck.

2) On the Paragraph Styles page (Figure 77), right-click on **Default Style** and select **Modify**.
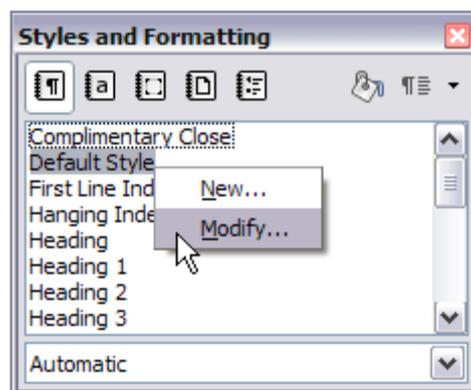
Figure 77: Modifying a style

3) On the Paragraph Style dialog (Figure 78), go to the *Text Flow* page.

4) Under Hyphenation, select or deselect the **Automatically** option. Click **OK** to save.

🟢 **Note**

Turning on hyphenation for paragraph Default Style affects all other paragraph styles that are based on Default Style. You can individually change other styles so that hyphenation is not active; for example, you might not want headings to be hyphenated. Any styles that are not based on Default Style are not affected. See Chapter 3, Using Styles and Templates, for more about styles based on other styles.
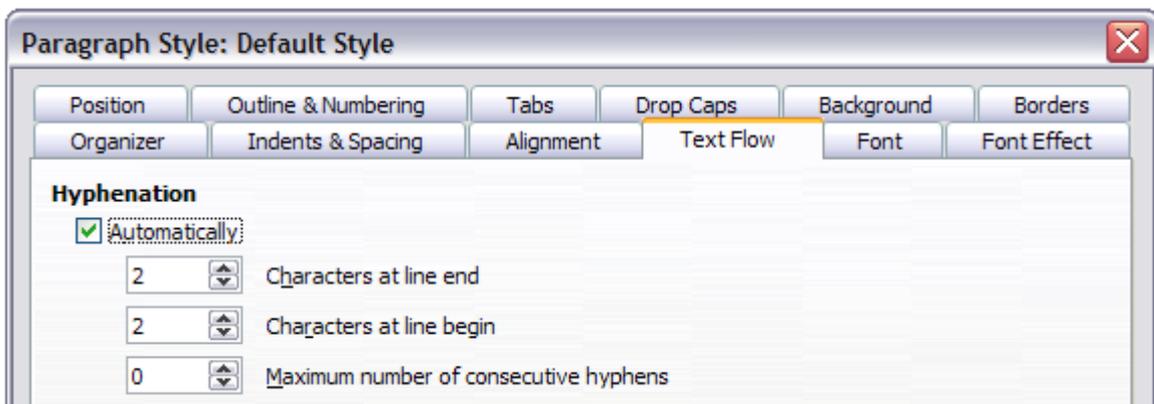
Figure 78: Turning on automatic hyphenation

You can also set hyphenation choices through **Tools > Options > Language Settings > Writing Aids**. In Options, near the bottom of the dialog, scroll down to find the hyphenation settings.
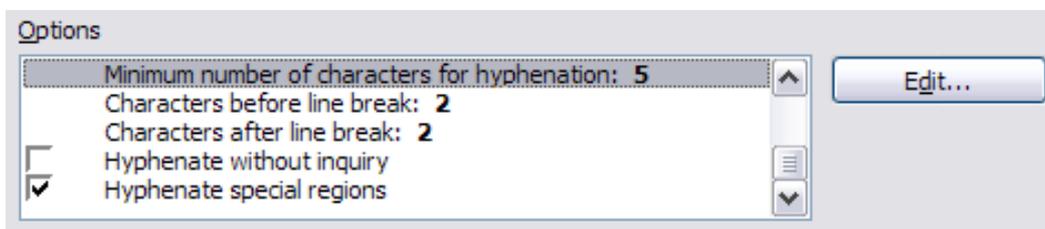
Figure 79: Setting hyphenation options

To change the minimum number of characters for hyphenation, the minimum number of characters before a line break, or the minimum number of characters after a line break, select the item, and then click the **Edit** button in the Options section.

Hyphenation options set on the Writing Aids dialog are effective only if hyphenation is turned on through paragraph styles.

Manual hyphenation

To manually hyphenate words, do not use a normal hyphen, which will remain visible even if the word is no longer at the end of a line when you add or delete text or change margins or font size. Instead, use a conditional hyphen, which is visible only when required.

To insert a conditional hyphen inside a word, click where you want the hyphen to appear and press *Ctrl+hyphen*. The word will be hyphenated at this position when it is at the end of the line, even if automatic hyphenation for this paragraph is switched off.

Formatting pages

Writer provides several ways for you to control page layouts: page styles, columns, frames, tables, and sections. For more information, see Chapter 4, Formatting Pages, in the *Writer Guide*.

> **Tip**
>
> Page layout is usually easier if you show text, object, table, and section boundaries in **Tools > Options > LibreOffice > Appearance,** and paragraph end, tabs, breaks, and other items in **Tools > Options > LibreOffice Writer > Formatting Aids**.

Which layout method to choose?

The best layout method depends on what the final document should look like and what sort of information will be in the document. Here are some examples.

For a book similar to this user guide, with one column of text, some figures without text beside them, and some other figures with descriptive text, use page styles for basic layout, and tables to place figures beside descriptive text when necessary.
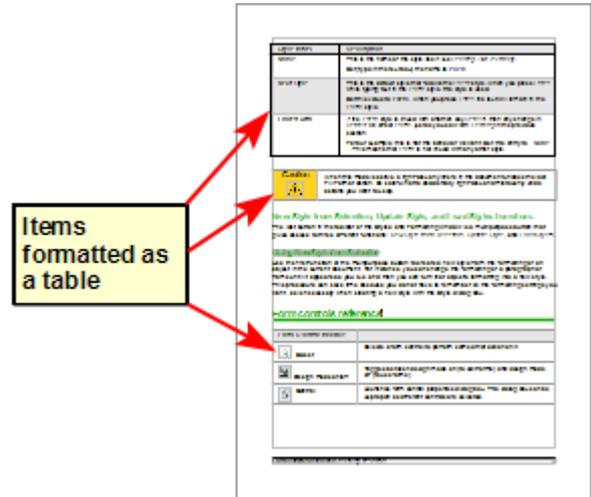
For an index or other document with two columns of text, where the text continues from the left-hand column to the right-hand column and then to the next page, all in sequence (also known as "snaking columns" of text), use page styles (with two columns). If the title of the document (on the first page) is full-page width, put it in a single-column section.
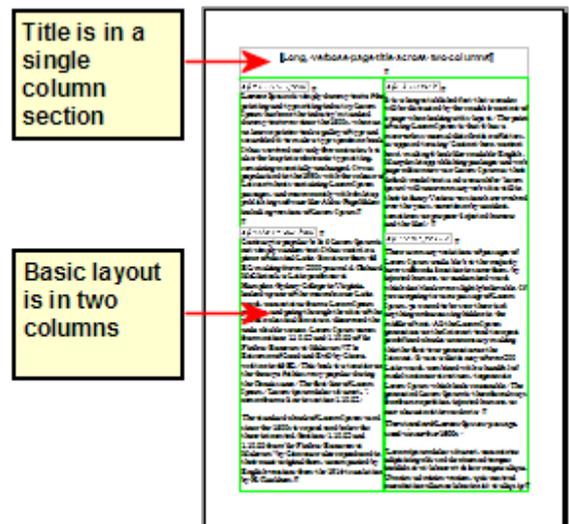
For a newsletter with complex layout, two or three columns on the page, and some articles that continue from one page to some place several pages later, use page styles for basic layout. Place articles in linked frames and anchor graphics to fixed positions on the page if necessary.
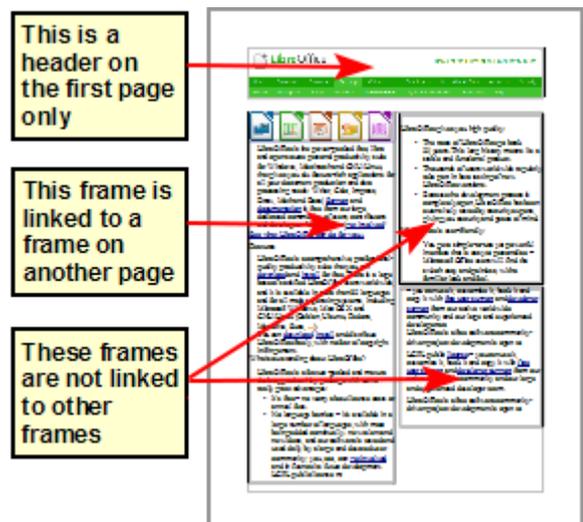
For a document with terms and translations to appear side-by-side in what appear to be columns, use a table to keep items lined up, and so you can type in both "columns".

This is a borderless table. Each pair of words is in a separate row, and each word is in a cell of the table.

Creating headers and footers

A header is an area that appears at the top of a page above the margin. A footer appears at the bottom of the page below the margin. Information such as page numbers inserted into a header or footer displays on every page of the document with that page style.

Inserting a header or footer

To insert a header, you can either:

- Choose **Insert > Header > Default Style** (or some other page style, if not Default Style), or
- Click above the top margin to make the Header marker appear (Figure 80), and then click on the **+**.
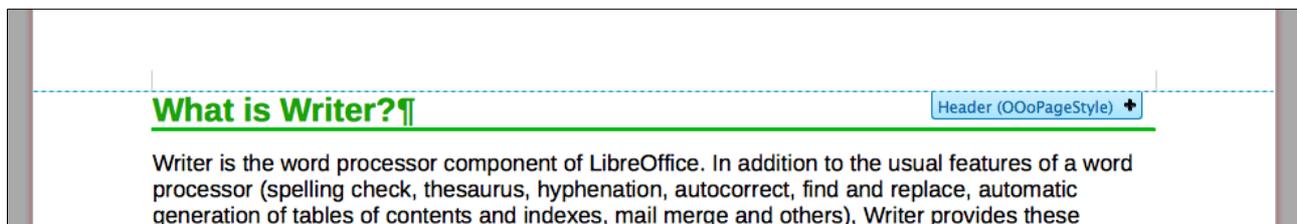
Figure 80: Header marker at top of text area

After a header has been created, a down-arrow appears on the header marker. Click on this arrow to drop down a menu of choices for working with the header (Figure 81).
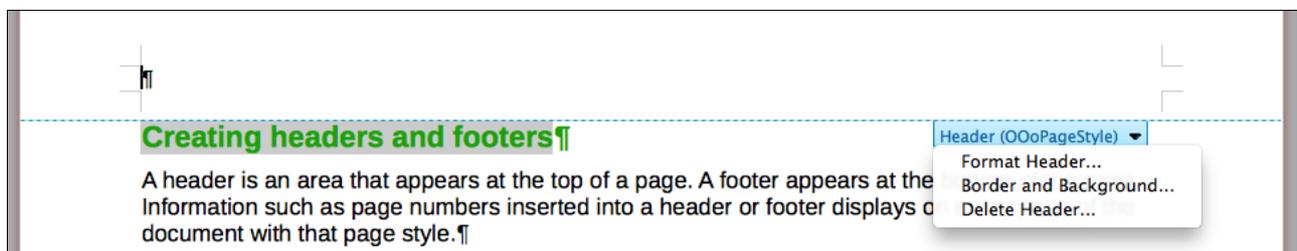
Figure 81: Header menu

To format a header, you can use either the menu item shown in Figure 81 or **Format > Page > Header**. Both methods take you to the same tab on the Page Style dialog.

Inserting header and footer contents

Other information such as document titles and chapter titles is often put into the header or footer. These items are best added as fields. That way, if something changes, the headers and footers are updated automatically. Here is one common example.

To insert the document title into the header:

1) Choose **File > Properties > Description** and type a title for your document.

2) Add a header (**Insert > Header > Default**).

3) Place the cursor in the header part of the page.

4) Choose **Insert > Fields > Title**. The title should appear on a gray background (which does not show when printed and can be turned off).

5) To change the title for the whole document, go back to **File > Properties > Description**.

Fields are covered in detail in Chapter 14, Working with Fields, in the *Writer Guide*.

For more about headers and footers, see Chapter 4, Formatting Pages, and Chapter 6, Introduction to Styles, in the *Writer Guide*.

Numbering pages

Displaying the page number

To display page numbers automatically :

1) Insert a header or footer, as described in "Creating headers and footers" above.

2) Place the cursor in the header or footer where you want the page number to appear and choose **Insert > Fields > Page Number**.

Including the total number of pages

To include the total number of pages (as in "page 1 of 12"):

1) Type the word "page" and a space, then insert the page number as above.

2) Press the space bar once, type the word "of" and a space, then choose **Insert > Fields > Page Count**.

🟢 **Note**

The Page Count field inserts the total number of pages in the document, as shown on the Statistics tab of the document's Properties window (**File > Properties**). If you restart page numbering anywhere in the document, then the total page count may not be what you want. See Chapter 4, Formatting Pages, in the *Writer Guide* for more information.

Restarting page numbering

Often you will want to restart the page numbering at 1, for example on the page following a title page or a table of contents. In addition, many documents have the "front matter" (such as the table of contents) numbered with Roman numerals and the main body of the document numbered in Arabic numerals, starting with 1.

You can restart page numbering in two ways.

Method 1:

1) Place the cursor in the first paragraph of the new page.

2) Choose **Format > Paragraph.**

3) On the Text Flow tab of the Paragraph dialog (Figure 78 on page 100), select **Breaks**.

4) Select **Insert** and then **With Page Style** and specify the page style to use.

5) Specify the page number to start from, and then click **OK**.

> ▶ **Tip**
>
> Method 1 is also useful for numbering the first page of a document with a page number greater than 1. For example, you may be writing a book, with each chapter in a separate file. Chapter 1 may start with page 1, but Chapter 2 could begin with page 25 and Chapter 3 with page 51.

Method 2:

1) **Insert > Manual break.**

2) By default, **Page break** is selected on the Insert Break dialog (Figure 82).

3) Choose the required page **Style**.

4) Select **Change page number.**

5) Specify the page number to start from, and then click **OK**.
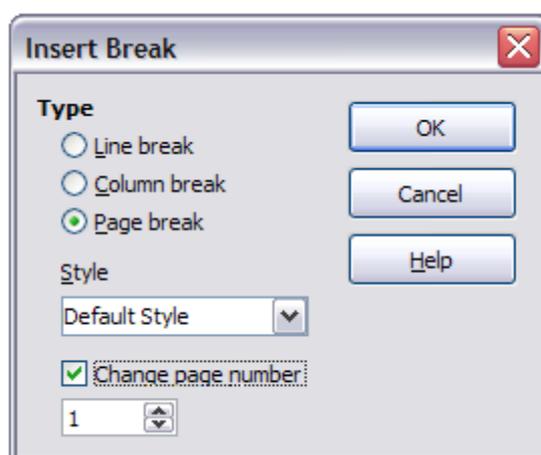
Figure 82: Restarting page numbering after a manual page break

Changing page margins

You can change page margins in three ways:

- Using the page rulers—quick and easy, but does not have fine control
- Using the Page Style dialog—can specify margins to two decimal places
- Using the Page panel on the Properties deck of the Sidebar

> ■ **Caution**
>
> If you change the margins, the new margins affect the page style and will be shown in the Page Style dialog the next time you open it.
>
> Because the page style is affected, the changed margins apply to **all** pages using that style.

To change margins using the rulers:

1) The gray sections of the rulers are the margins. Put the mouse cursor over the line between the gray and white sections. The pointer turns into a double-headed arrow and displays the current setting in a tool-tip.

2) Hold down the left mouse button and drag the mouse to move the margin.
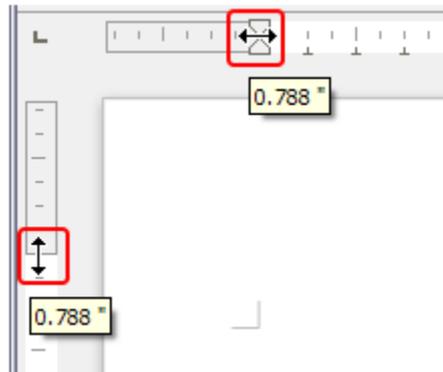
Figure 83: Moving the margins

> ![icon] **Caution**
>
> The small arrowheads (gray triangles) on the ruler are used for indenting paragraphs. They are often in the same place as the page margins, so you need to be careful to move the margin marker, not the arrows. The double-headed arrows shown in Figure 83 are mouse cursors shown in the correct position for moving the margin markers.

To change margins using the Page Style dialog:

1) Right-click anywhere in the text area on the page and select **Page** from the context menu.

2) On the **Page** tab of the dialog, type the required distances in the Margins boxes.

To change margins using the Page panel of the Properties deck of the Sidebar:

1) On the open Sidebar (**View > Sidebar**) select the **Properties** tab.

2) Open the Page panel if is not open by clicking the plus (**+**) symbol in the panel title

3) Click the **Margin** button to open the sub-panel and enter the required dimensions in the **Custom** size boxes (clicking the **More Options** button will open the Page Style dialog).

Adding comments to a document

Authors and reviewers often use comments to exchange ideas, ask for suggestions, or mark items needing attention.

You can select a contiguous block of text, which may be multiple paragraphs, for a comment; or you can select a single point at which the comment will be inserted.

To insert a comment, select the text, or place the cursor in the place the comment refers to, and choose **Insert > Comment** or press *Ctrl+Alt+C*. The anchor point of the comment is connected by a dotted line to a box on the right-hand side of the page where you can type the text of the comment. A Comments button is also added to the right of the horizontal ruler; you can click this button to toggle the display of the comments.

Writer automatically adds at the bottom of the comment the author's name and a time stamp indicating when the comment was created. Figure 84 shows an example of text with comments from two different authors.
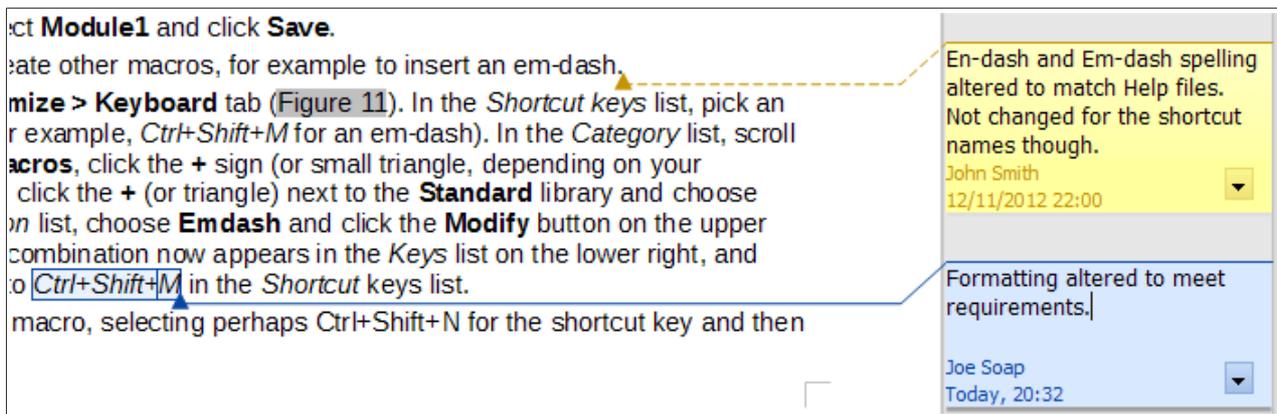
Figure 84: Example of comments

Choose **Tools > Options > LibreOffice > User Data** to configure the name you want to appear in the Author field of the comment, or to change it.

If more than one person edits the document, each author is automatically allocated a different background color.

Right-click on a comment to open a context menu where you can delete the current comment, all the comments from the same author, or all the comments in the document. From this menu, you can also open a dialog to apply some basic formatting to the text of comments. You can paste saved text using the Paste button in the menu. You can also change the font type, size, and alignment in the usual editing manner.

To navigate from one comment to another, open the Navigator (*F5*), expand the Comments section, and click on the comment text to move the cursor to the anchor point of the comment in the document. Right-click on the comment to quickly edit or delete it.

You can also navigate through the comments using the keyboard. Use *Ctrl+Alt+Page Down* to move to the next comment and *Ctrl+Alt+Page Up* to move to the previous comment.

Comments can be printed next to the text in the right margin as they appear on screen. Each page is scaled down in order to make space for the comments to fit on the underlying paper size.

Creating a table of contents

Writer's table of contents feature lets you build an automated table of contents from the headings in your document. Before you start, make sure that the headings are styled consistently. For example, you can use the *Heading 1* style for chapter titles and the *Heading 2* and *Heading 3* styles for chapter subheadings.

Although tables of contents can be customized extensively in Writer, often the default settings are all you need. Creating a quick table of contents is simple:

1) When you create your document, use the following paragraph styles for different heading levels (such as chapter and section headings): *Heading 1*, *Heading 2*, *Heading 3*, and so on. These are what will appear in your table of contents.

2) Place the cursor where you want the table of contents to appear.

3) Choose **Insert > Indexes and Tables > Indexes and Tables**.

4) Change nothing in the Insert Index/Table dialog. Click **OK**.

If you add or delete text (so that headings move to different pages) or you add, delete, or change headings, you need to update the table of contents.

To do this:

1) Place the cursor within the table of contents.

2) Right-click and choose **Update Index/Table** from the context menu.

Note

If you cannot place the cursor in the table of contents, choose **Tools > Options > LibreOffice Writer > Formatting Aids**, and then select **Enable** in the **Cursor in protected areas** section.

You can customize an existing table of contents at any time. Right-click anywhere in it and choose **Edit Index/Table** from the context menu. Chapter 12, Creating Tables of Contents, Indexes and Bibliographies, of the *Writer Guide* describes in detail all the customizations you can choose.

Creating indexes and bibliographies

Indexes and bibliographies work in a similar way to tables of contents. Chapter 12, Creating Tables of Contents, Indexes and Bibliographies, in the *Writer Guide* describes the process in detail.

In addition to alphabetical indexes, other types of indexes supplied with Writer include those for illustrations, tables, and objects, and you can even create a user-defined index. For example, you might want an index containing only the scientific names of species mentioned in the text, and a separate index containing only the common names of species. Before creating some types of indexes, you first need to create index entries embedded in your Writer document.

Working with graphics

Graphics in Writer are of three basic types:

- Image files, including photos, drawings, scanned images, and others
- Diagrams created using LibreOffice's drawing tools
- Charts created using LibreOffice's Chart component

See Chapter 11, Graphics, the Gallery, and Fontwork, in this book and Chapter 8, Working with Graphics, in the *Writer Guide*.

Printing

See Chapter 10, Printing, Exporting, and E-mailing, in this book and Chapter 5, Printing, Exporting, Faxing, and E-mailing, in the *Writer Guide* for details on previewing pages before printing, selecting print options, printing in black and white on a color printer, printing brochures, and other printing features.

Using mail merge

Writer provides very useful features to create and print:

- Multiple copies of a document to send to a list of different recipients (form letters)
- Mailing labels
- Envelopes

All these facilities use a registered data source (a spreadsheet or database containing the name and address records and other information). Chapter 11, Using Mail Merge, in the *Writer Guide* describes the process.

Tracking changes to a document

You can use several methods to keep track of changes made to a document.

1) Make your changes to a copy of the document (stored in a different folder, or under a different name, or both), then use Writer to combine the two files and show the differences. Choose **Edit > Compare Document**. This technique is particularly useful if you are the only person working on the document, as it avoids the increase in file size and complexity caused by the other methods.

2) Save versions that are stored as part of the original file. However, this method can cause problems with documents of non-trivial size or complexity, especially if you save a lot of versions. Avoid this method if you can.

3) Use Writer's change marks (often called "redlines" or "revision marks") to show where you have added or deleted material, or changed formatting. Choose **Edit > Changes > Record** before starting to edit. Later, you or another person can review and accept or reject each change. Choose **Edit > Track Changes > Show**. Right-click on an individual change and choose **Accept Change** or **Reject Change** from the context menu, or choose **Edit > Track Changes > Manage Changes** to view the list of changes and accept or reject them. Details are in the *Writer Guide*.

> **Tip**
>
> Not all changes are recorded. For example, changing a tab stop from align left to align right, and changes in formulas (equations) or linked graphics are not recorded.

Using fields

Fields are extremely useful features of Writer. They are used for data that changes in a document (such as the current date or the total number of pages) and for inserting document properties such as name, author, and date of last update. Fields are the basis of cross-referencing (see below); automatic numbering of figures, tables, headings, and other elements; and a wide range of other functions—far too many to describe here. See Chapter 14, Working with Fields, in the *Writer Guide* for details.

Linking to another part of a document

If you type in cross-references to other parts of a document, those references can easily get out of date if you reorganize the order of topics, add or remove material, or reword a heading. Writer provides two ways to ensure that your references are up to date, by inserting links to other parts of the same document or to a different document: hyperlinks and cross-references.

The two methods have the same result if you *Ctrl+click* the link when the document is open in Writer: you are taken directly to the cross-referenced item. However, they also have major differences:

- The text in a hyperlink does **not** automatically update if you change the text of the linked item (although you can change it manually), but changed text does automatically update in a cross-reference.

- When using a hyperlink, you do not have a choice of the content of the link (for example text or page number), but when using a cross-reference, you have several choices, including bookmarks.

- To hyperlink to an object such as a graphic, and have the hyperlink show useful text such as *Figure 6*, you need to give such an object a useful name (instead of a default name like *Graphics6)*, or use the Hyperlink dialog to modify the visible text. In contrast, cross-references to figures with captions automatically show useful text, and you have a choice of several variations of the name.

- If you save a Writer document to HTML, hyperlinks remain active but cross-references do not. (Both remain active when the document is exported to PDF.)

Using hyperlinks

The easiest way to insert a hyperlink to another part of the same document is by using the Navigator:

1) Open the document containing the items you want to cross-reference.

2) Open the Navigator by clicking its button, choosing **View > Navigator**, or by pressing *F5*.

3) Click the arrow part of the combination **Drag Mode** button, and choose **Insert as Hyperlink**.

4) In the list at the bottom of the Navigator, select the document containing the item that you want to cross-reference.

5) In the Navigator list, select the item that you want to insert as a hyperlink.

6) Drag the item to where you want to insert the hyperlink in the document. The name of the item is inserted in the document as an active hyperlink.

You can also use the Hyperlink dialog to insert and modify hyperlinks within and between documents. See Chapter 12, Creating Web Pages.
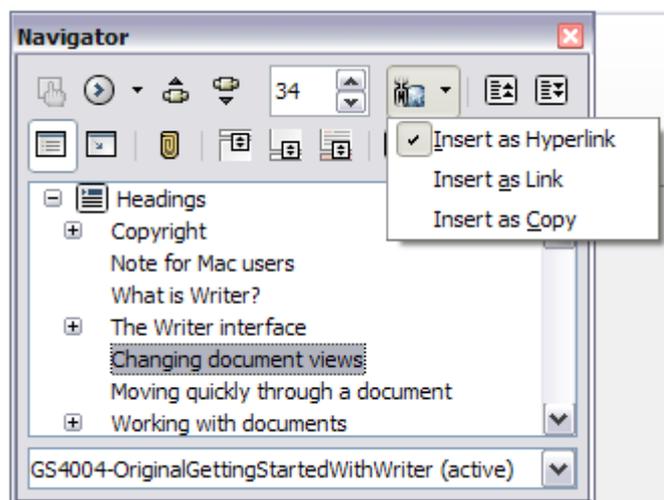
Figure 85: Inserting a hyperlink using the Navigator

Using cross-references

Replace any typed cross-references with automatic ones and, when you update fields, all the references will update automatically to show the current wording or page numbers. The *Cross-references* tab of the Fields dialog lists some items, such as headings, bookmarks, figures, tables, and numbered items such as steps in a procedure. You can also create your own reference items; see "Setting References" in Chapter 14, Working with Fields, in the *Writer Guide* for instructions.

To insert a cross-reference to a heading, figure, bookmark, or other item:

1) In your document, place the cursor where you want the cross-reference to appear.

2) If the Fields dialog is not open, click **Insert > Cross-reference**. On the *Cross-references* tab (Figure 86), in the *Type* list, select the type of item to be referenced (for example, *Heading* or *Figure*). You can leave this page open while you insert many cross-references.

3) Click on the required item in the *Selection* list, which shows all the items of the selected type. In the *Insert reference to* list, choose the format required. The list varies according to the Type. The most commonly used options are **Reference** (to insert the full text of a heading or caption), **Category and Number** (to insert a figure number preceded by the word *Figure* or *Table*, but without the caption text), **Numbering** (to insert only the figure or table number, without the word "Figure" or "Table"), or **Page** (to insert the number of the page the referenced text is on). Click **Insert**.
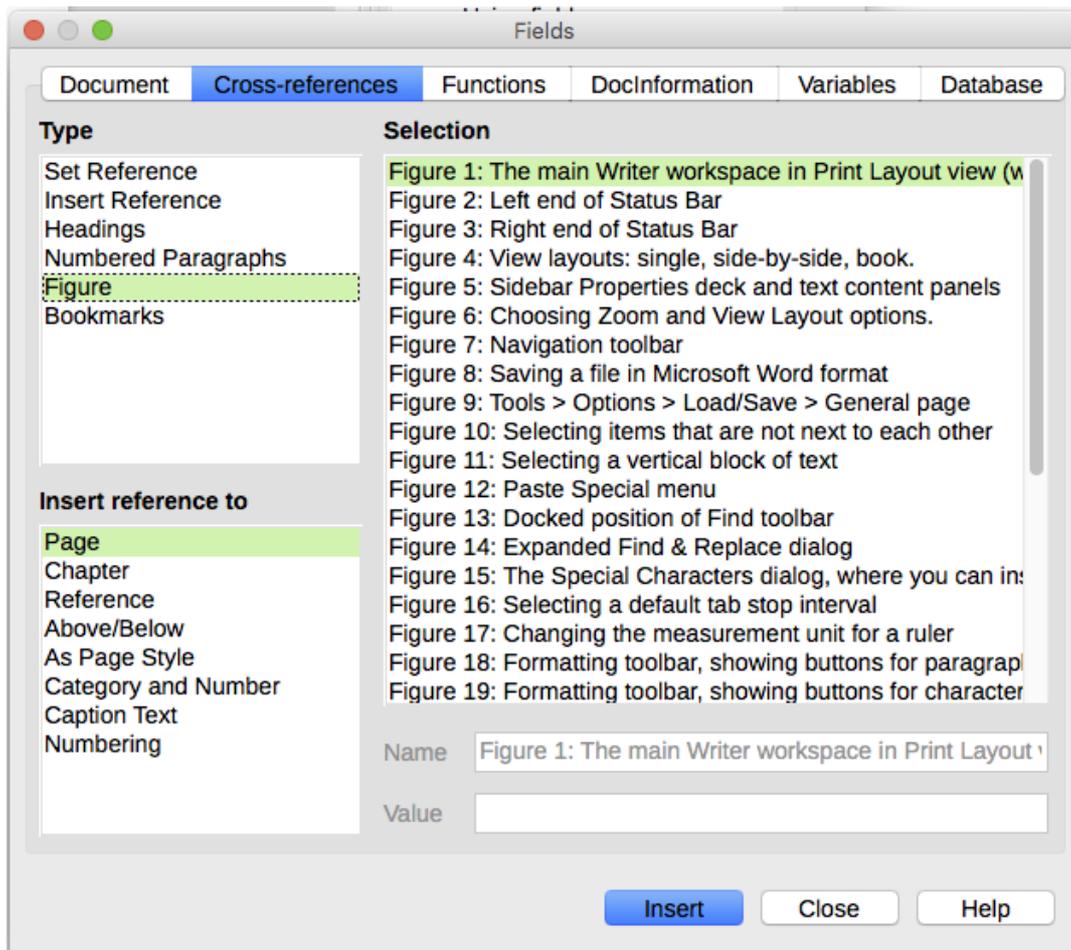
Figure 86: The Cross-references tab of the Fields dialog

Using bookmarks

Bookmarks are listed in the Navigator and can be accessed directly from there with a single mouse click. You can cross-reference to bookmarks and create hyperlinks to bookmarks, as described above.

1) Select the text you want to bookmark. Click **Insert > Bookmark**.

2) On the Insert Bookmark dialog, the larger box lists any previously defined bookmarks. Type a name for this bookmark in the top box, and then click **OK**.
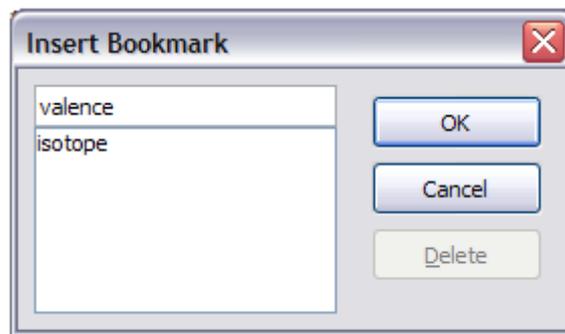
Figure 87: Inserting a bookmark

Using master documents

Master documents are typically used for producing long documents such as a book, a thesis, or a long report; or when different people are writing different chapters or other parts of the full document, so you don't need to share files. A master document joins separate text documents into one larger document, and unifies the formatting, table of contents (TOC), bibliography, index, and other tables or lists.

Since LibreOffice version 4.4, Master Document Templates can be added to the Template Manager and creating a new document based on a Master Document Template creates a Master Document with the same initial content as the template it is based upon. See Chapter 3, Styles and Templates, for more about creating and using templates.

Yes, master documents do work in Writer. However, until you become familiar with them, you may think that master documents are unreliable or difficult to use. See Chapter 13, Working with Master Documents, in the *Writer Guide*.

Creating fill-in forms

A standard text document displays information: a letter, report, or brochure, for example. Typically the reader may either edit everything or nothing in any way. A form has sections that are not to be edited, and other sections that are designed for the reader to make changes. For example, a questionnaire has an introduction and questions (which do not change) and spaces for the reader to enter answers.

Forms are used in three ways:

- To create a simple document for the recipient to complete, such as a questionnaire sent out to a group of people who fill it in and return it.
- To link into a database or data source and allow the user to enter information. Someone taking orders might enter the information for each order into a database using a form.
- To view information held in a database or data source. A librarian might call up information about books.

Writer offers several ways to fill information into a form, including check boxes, option buttons, text boxes, pull-down lists, and spinners. See Chapter 15, Using Forms in Writer, in the *Writer Guide*.

Chapter 5
Getting Started with Calc

Using Spreadsheets in LibreOffice

What is Calc?

Calc is the spreadsheet component of LibreOffice. You can enter data (usually numerical) in a spreadsheet and then manipulate this data to produce certain results.

Alternatively, you can enter data and then use Calc in a "What if..." manner by changing some of the data and observing the results without having to retype the entire spreadsheet or sheet.

Other features provided by Calc include:

- Functions, which can be used to create formulas to perform complex calculations on data.
- Database functions, to arrange, store, and filter data.
- Dynamic charts; a wide range of 2D and 3D charts.
- Macros, for recording and executing repetitive tasks; scripting languages supported include LibreOffice Basic, Python, BeanShell, and JavaScript.
- Ability to open, edit, and save Microsoft Excel spreadsheets.
- Import and export of spreadsheets in multiple formats, including HTML, CSV, PDF, and PostScript.

Note

If you want to use macros written in Microsoft Excel using the VBA macro code in LibreOffice, you must first edit the code in the LibreOffice Basic IDE editor. See *Chapter 13 Getting Started with Macros* and *Calc Guide Chapter 12 Calc Macros*.

Spreadsheets, sheets and cells

Calc works with elements called *spreadsheets*. Spreadsheets consist of a number of individual *sheets*, each sheet containing cells arranged in rows and columns. A particular cell is identified by its row number and column letter.

Cells hold the individual elements – text, numbers, formulas, and so on – that make up the data to display and manipulate.

Each spreadsheet can have several sheets, and each sheet can have several individual cells. In Calc, each sheet can have a maximum of 1,048,576 rows (65,536 rows in Calc 3.2 and earlier) and a maximum of 1024 columns.

Calc main window

When Calc is started, the main window opens (Figure 88). The parts of this window are described below.

Title bar

The Title bar, located at the top, shows the name of the current spreadsheet. When the spreadsheet is newly created, its name is *Untitled X*, where *X* is a number. When you save a spreadsheet for the first time, you are prompted to enter a name of your choice.

Menu bar

The Menu bar is where you select one of the menus and various sub-menus appear giving you more options. You can also customize the Menu bar; see *Chapter 14 Customizing LibreOffice* for more information.
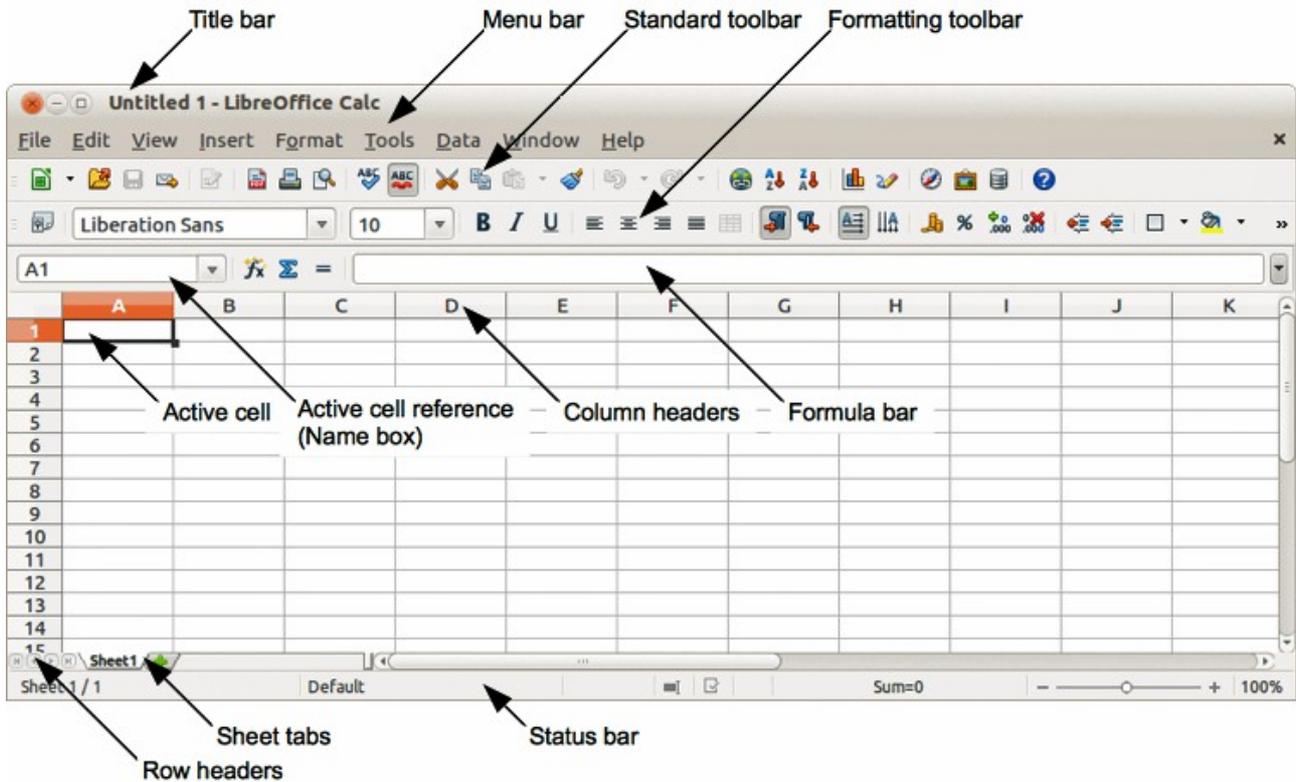
Figure 88: Calc main dialog, without Sidebar

- **File** – contains commands that apply to the entire document; for example *Open*, *Save*, *Wizards*, *Export as PDF*, *Print*, *Digital Signatures* and so on.

- **Edit** – contains commands for editing the document; for example *Undo*, *Copy*, *Changes*, *Fill*, *Plug-in* and so on.

- **View** – contains commands for modifying how the Calc user interface looks; for example *Toolbars*, *Column & Row Headers*, *Full Screen*, *Zoom* and so on.

- **Insert** – contains commands for inserting elements into a spreadsheet; for example *Cells*, *Rows*, *Columns*, *Sheets*, *Picture* and so on.

- **Format** – contains commands for modifying the layout of a spreadsheet; for example *Cells*, *Page*, *Styles and Formatting*, *Alignment* and so on.

- **Tools** – contains various functions to help you check and customize your spreadsheet, for example *Spelling*, *Share Document*, *Gallery*, *Macros* and so on.

- **Data** – contains commands for manipulating data in your spreadsheet; for example *Define Range*, *Sort*, *Consolidate* and so on.

- **Window** – contains commands for the display window; for example *New Window*, *Split* and so on.

- **Help** – contains links to the help system included with the software and other miscellaneous functions; for example *Help*, *License Information*, *Check for Updates* and so on.

Toolbars

The default setting when Calc opens is for the Standard and Formatting toolbars to be docked at the top of the workspace (Figure 88).

Calc toolbars can be either docked and fixed in place, or floating, allowing you to move a toolbar into a more convenient position on your workspace. Docked toolbars can be undocked and either moved to different docked position on the workspace, or left as a floating toolbar. Toolbars that are floating when opened can be docked into a fixed position on your workspace.

The default set of icons (sometimes called buttons) on toolbars provide a wide range of common commands and functions. You can also remove or add icons to toolbars, see *Chapter 14 Customizing LibreOffice* for more information.

Formula bar

The Formula Bar is located at the top of the sheet in the Calc workspace. The Formula Bar is permanently docked in this position and cannot be used as a floating toolbar. If the Formula Bar is not visible, go to **View** on the Menu bar and select **Formula Bar**.

Figure 89: Formula bar

Going from left to right and referring to Figure 89, the Formula Bar consists of the following:

- **Name Box** – gives the current active cell reference using a combination of a letter and number, for example A1. The letter indicates the column and the number indicates the row of the selected cell.

- **Function Wizard** – opens a dialog from which you can search through a list of available functions. This can be very useful because it also shows how the functions are formatted.

- **Sum** – clicking on the Sum icon totals the numbers in the cells above the selected cell and then places the total in the selected cell. If there are no numbers above the selected cell, then the cells to the left are totaled.

- **Function** – clicking on the Function icon inserts an equals (=) sign into the selected cell and the **Input line**, allowing a formula to be entered.

- **Input line** – displays the contents of the selected cell (data, formula, or function) and allows you to edit the cell contents.

- You can also edit the contents of a cell directly in the cell itself by double-clicking on the cell. When you enter new data into a cell, the Sum and Function icons change to **Cancel** and **Accept** icons.

🟢 Note

In a spreadsheet the term "function" covers much more than just mathematical functions. See the *Calc Guide Chapter 7 Using Formulas and Functions* for more information.

Spreadsheet layout

Individual cells

The main section of the workspace in Calc displays the cells in the form of a grid. Each cell is formed by the intersection of one column and one row in the spreadsheet.

At the top of the columns and the left end of the rows are a series of header boxes containing letters and numbers. The column headers use an alpha character starting at A and go on to the right. The row headers use a numerical character starting at 1 and go down.

These column and row headers form the cell references that appear in the Name Box on the Formula Bar (Figure 89). If the headers are not visible on your spreadsheet, go to **View** on the Menu bar and select **Column & Row Headers**.

Sheet tabs

In Calc you can have more than one sheet in a spreadsheet. At the bottom of the grid of cells in a spreadsheet are sheet tabs indicating how many sheets there are in your spreadsheet. Clicking on a tab enables access to each individual sheet and displays that sheet. An active sheet is indicated with a white tab (default Calc setup). You can also select multiple sheets by holding down the *Ctrl* key while you click on the sheet tabs.

To change the default name for a sheet (Sheet1, Sheet2, and so on), right-click on a sheet tab and select **Rename Sheet** from the context menu. A dialog opens, in which you can type a new name for the sheet. Click **OK** when finished to close the dialog.

To change the color of a sheet tab, right-click on the tab and select **Tab Color** from the context menu to open the **Tab Color** dialog (Figure 90). Select your color and click **OK** when finished to close the dialog. To add new colors to this color palette, see *Chapter 14 Customizing LibreOffice* for more information.
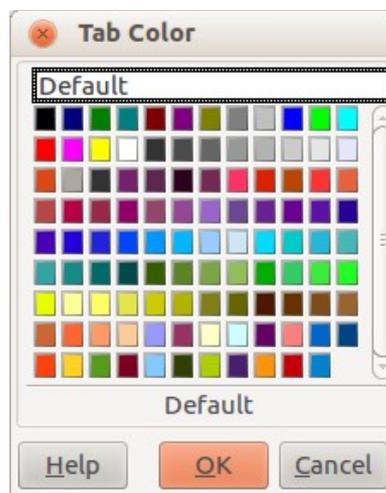
Figure 90: Tab color dialog

Status bar

The Calc status bar (Figure 91) provides information about the spreadsheet as well as quick and convenient ways to change some of its features. Most of the fields are similar to those in other components of LibreOffice; see *Chapter 1 Introducing LibreOffice* in this guide and the *Calc Guide Chapter 1 Introducing Calc* for more information.
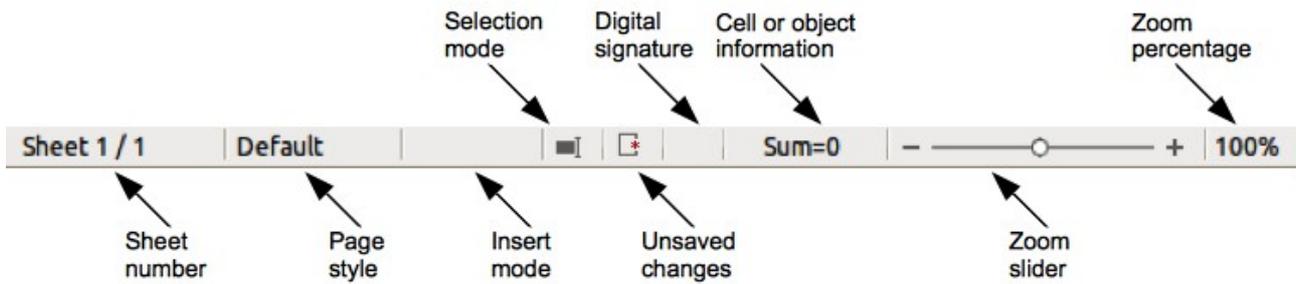
Figure 91: Calc status bar

Sidebar

The Calc Sidebar (**View > Sidebar**) is located on the right side of the window. It is a mixture of toolbar and dialog and consists of five decks: Properties, Styles and Formatting, Gallery, Navigator, and Functions. Each deck has a corresponding icon on the Tab panel to the right of the sidebar, allowing you to switch between them.
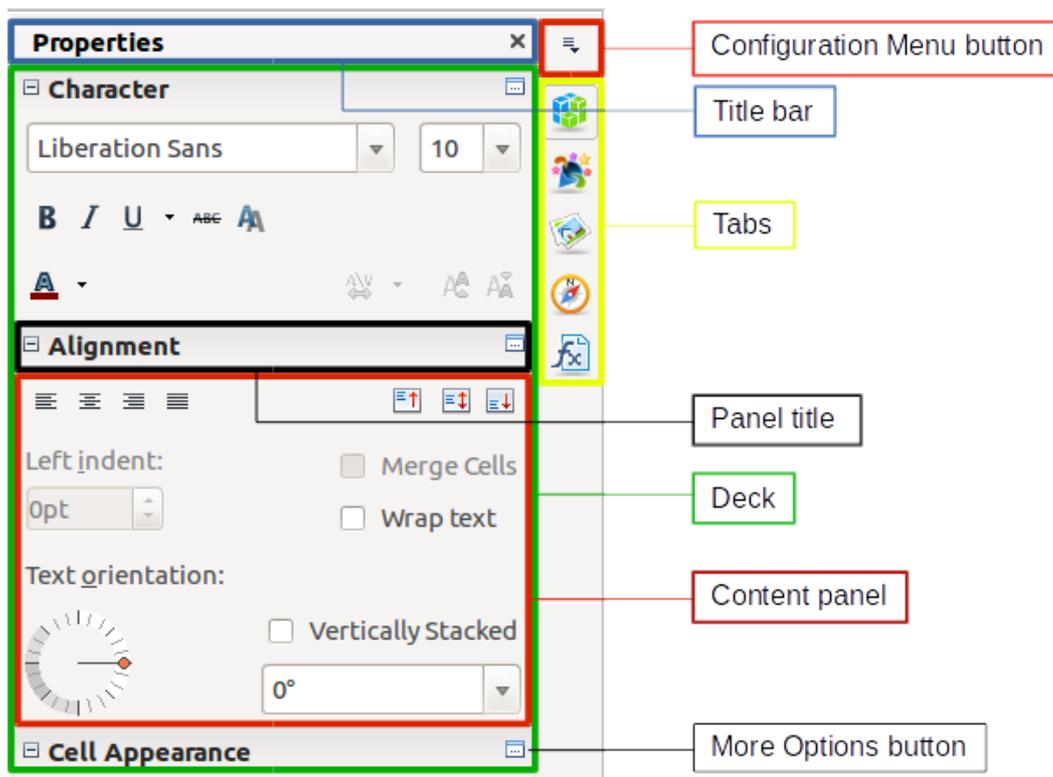
Figure 92: Calc Sidebar with Properties open

The decks are described below.

- **Properties**: This deck includes four content panels.

  - **Character**: Provides controls for formatting the text, such as font family, size, and color. Some controls, such as superscript, only become active when the text cursor is active in the Input line of the Formula bar or the cell.

  - **Alignment**: Provides controls to align the text in various ways, including horizontal and vertical alignment, wrapping, indenting, merging, text orientation, and vertical stacking.

  - **Cell Appearance:** Provides controls to set the appearance options, including cell background color, cell border formats including line color and style, and grid lines.

- **Number Format:** Provides a way to quickly change the format of numbers including decimals, currency, dates, or numeric text. Numerical and label field controls for Forms are also available.

Each of these panels has a **More Options** button, which opens a dialog that gives a greater number of options. These dialogs lock the document for editing until they are closed.

- **Styles and Formatting:** This deck contains a single panel, which is the same as that opened by selecting the **Styles and Formatting** button (*F11*) from the Text Formatting toolbar.

- **Gallery**: This deck contain a single panel, which is the same as that opened by selecting **Gallery** from the Standard toolbar or **Tools > Gallery** from the Menu bar.

- **Navigator**: This deck contains a single panel, which is essentially the same as the Navigator window opened by clicking the **Navigator** button on the Standard toolbar or selecting **View > Navigator** (*F5*) from the Menu bar. Only the **Contents** button is absent in the Sidebar's Navigator panel.

- **Functions**: This deck contains a single panel, which is the same as the window opened by selecting **Insert > Function List** from the Menu bar.

To the right side of the title bar of each open deck is a **Close** button (**X**), which closes the deck to leave only the Tab bar open. Clicking on any Tab button reopens the deck.

The Sidebar can be hidden, or revealed if already hidden, by clicking on the edge Hide/Show button. You can adjust the deck width by dragging on the left edge of the sidebar.

Opening a CSV file

Comma-separated-values (CSV) files are spreadsheet files in a text format where cell contents are separated by a character, for example a comma or semi-colon. Each line in a CSV text file represents a row in a spreadsheet. Text is entered between quotation marks; numbers are entered without quotation marks.

To open a CSV file in Calc:

1) Choose **File > Open** on the Menu bar and locate the CSV file that you want to open.

2) Select the file and click **Open**. By default, a CSV file has the extension `.csv`. However, some CSV files may have a `.txt` extension.

3) The **Text Import** dialog (Figure 93) opens allowing you to select the various options available when importing a CSV file into a Calc spreadsheet.

4) Click **OK** to open and import the file.

The various options for importing CSV files into a Calc spreadsheet are as follows:

- **Import**

  - *Character Set* – specifies the character set to be used in the imported file.

  - *Language* – determines how the number strings are imported.

    If Language is set to Default for CSV import, Calc will use the globally set language. If Language is set to a specific language, that language will be used when importing numbers.

  - *From Row* – specifies the row where you want to start the import. The rows are visible in the preview window at the bottom of the dialog.
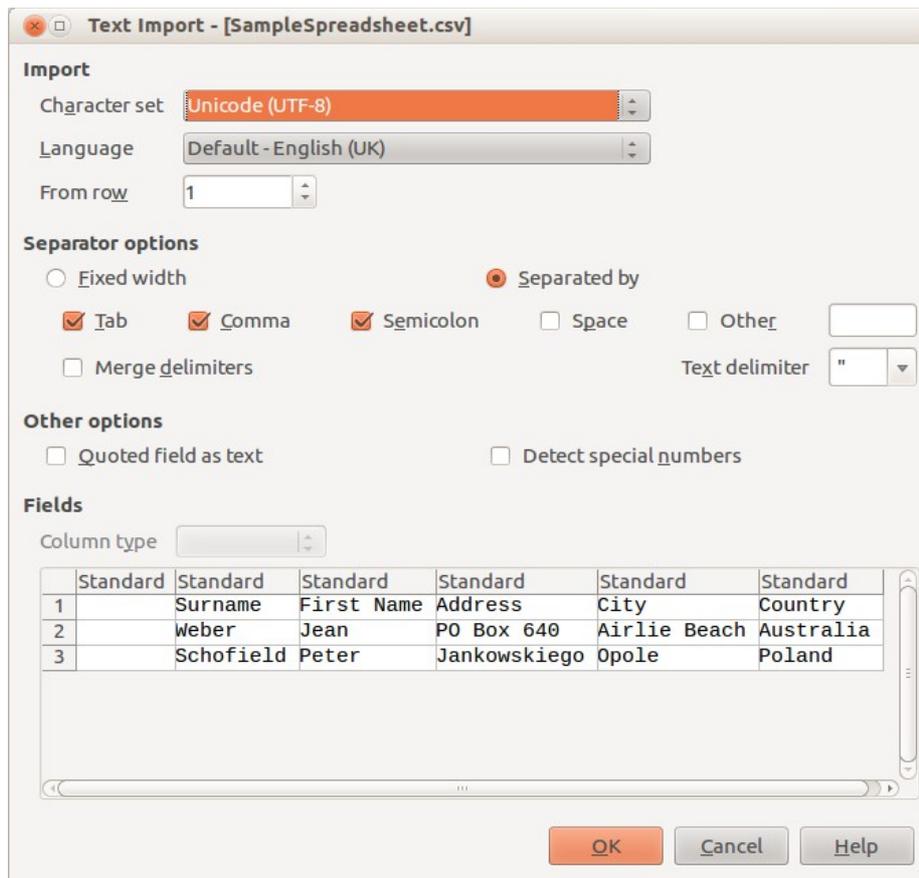
Figure 93: Text Import dialog

- **Separator Options** – specifies whether your data uses separators or fixed widths as delimiters.

  - *Fixed width* – separates fixed-width data (equal number of characters) into columns. Click on the ruler in the preview window to set the width.

  - *Separated by* – select the separator used in your data to delimit the data into columns. When you select *Other*, you specify the character used to separate data into columns. This custom separator must also be contained in your data.

  - *Merge delimiters* – combines consecutive delimiters and removes blank data fields.

  - *Text delimiter* – select a character to delimit text data.

- **Other options**

  - *Quoted fields as text* – when this option is enabled, fields or cells whose values are quoted in their entirety (the first and last characters of the value equal the text delimiter) are imported as text.

  - *Detect special numbers* – when this option is enabled, Calc will automatically detect all number formats, including special number formats such as dates, time, and scientific notation. The selected language also influences how such special numbers are detected, since different languages and regions many have different conventions for such special numbers.

    When this option is disabled, Calc will detect and convert only decimal numbers. The rest, including numbers formatted in scientific notation, will be imported as text. A decimal number string can have digits 0-9, thousands separators, and a decimal separator. Thousands separators and decimal separators may vary with the selected language and region.

- **Fields** – shows how your data will look when it is separated into columns.
  - *Column type* – select a column in the preview window and select the data type to be applied the imported data.
  - *Standard* – Calc determines the type of data.
  - *Text* – imported data are treated as text.
  - *US English* – numbers formatted in US English are searched for and included regardless of the system language. A number format is not applied. If there are no US English entries, the *Standard* format is applied.
  - *Hide* – the data in the column are not imported.

Saving spreadsheets

To save a spreadsheet, see *Chapter 1 Introducing LibreOffice* for more details on how to save files manually or automatically. Calc can also save spreadsheets in a range of formats and also export spreadsheets to PDF, HTML and XHTML file formats; see the *Calc Guide Chapter 6 Printing, Exporting, and E-mailing* for more information.

Saving in other spreadsheet formats

If you need to exchange files with users who are unable to receive spreadsheet files in Open Document Format (ODF) (*.ods), which Calc uses as default format, you can save a spreadsheet in another format.

1) Save your spreadsheet in Calc spreadsheet file format (*.ods).
2) Select **File > Save As** on the Menu bar to open the **Save As** dialog (Figure 94).
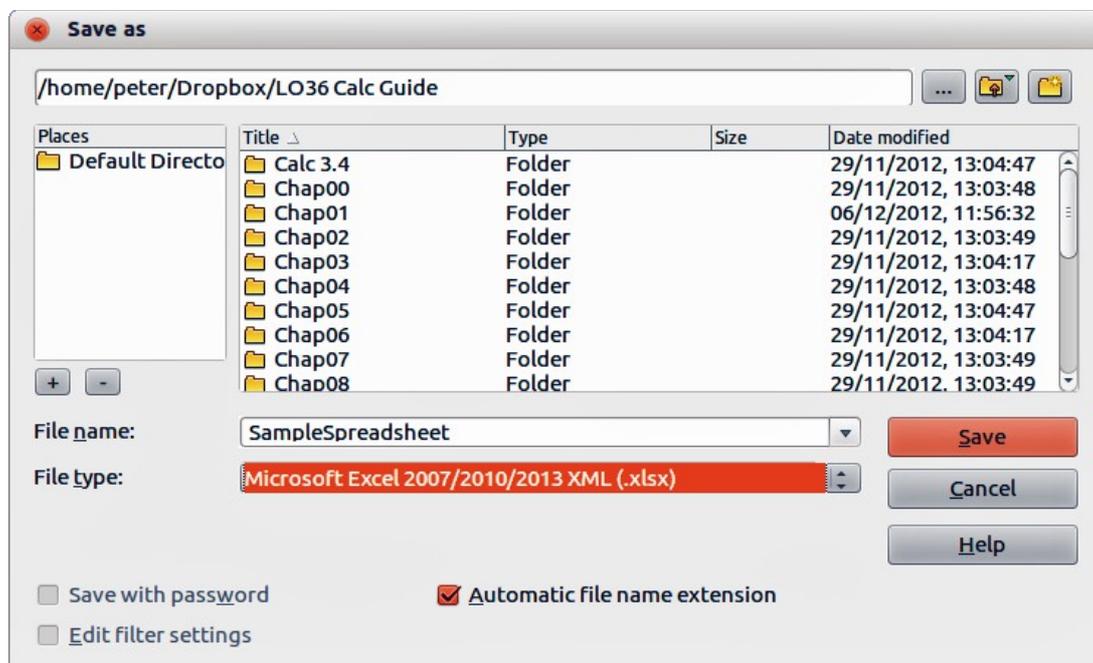
Figure 94: Save As dialog

3) In **File name**, if you wish, enter a new file name for the spreadsheet.
4) In **File type** drop-down menu, select the type of spreadsheet format you want to use.
5) If **Automatic file name extension** is selected, the correct file extension for the spreadsheet format you have selected will be added to the file name.

6) Click **Save**.

7) Each time you click **Save**, the **Confirm File Format** dialog opens (Figure 95). Click **Use [xxx] Format** to continue saving in your selected spreadsheet format or click **Use ODF Format** to save the spreadsheet in Calc ODS format.

8) If you select **Text CSV** format (*.csv) for your spreadsheet, the **Export Text File** dialog (Figure 96) opens allowing you to select the character set, field delimiter, text delimiter and so on to be used for your CSV file.

Figure 95: Confirm File Format dialog
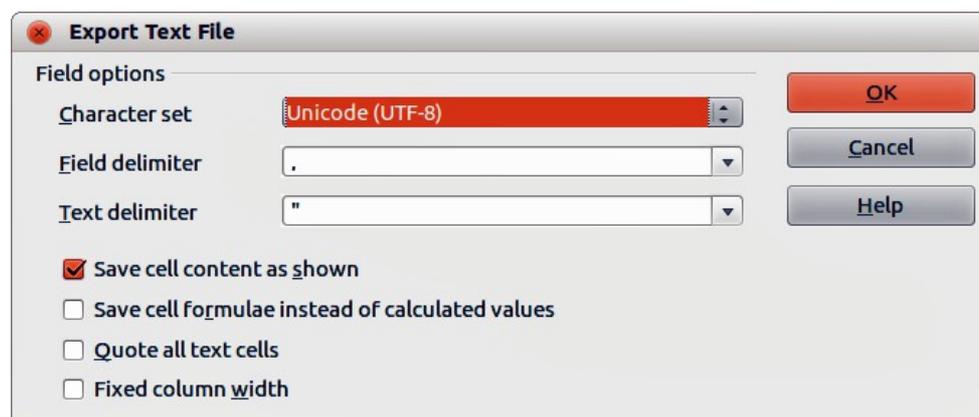
Figure 96: Export Text File dialog for CSV files

Tip

To have Calc save documents by default in a file format other than the default ODF format, go to **Tools > Options > Load/Save > General**. In **Default file format** and **ODF settings > Document type**, select **Spreadsheet,** then in **Always save as**, select your preferred file format.

Navigating within spreadsheets

Calc provides many ways to navigate within a spreadsheet from cell to cell and sheet to sheet. You can generally use the method you prefer.

Cell navigation

When a cell is selected or in focus, the cell borders are emphasized. When a group of cells is selected, the cell area is colored. The color of the cell border emphasis and the color of a group of selected cells depends on the operating system being used and how you have set up LibreOffice.

- **Using the mouse** – place the mouse pointer over the cell and click the left mouse button. To move the focus to another cell using the mouse, simply move the mouse pointer to the cell where you want the focus to be and click the left mouse button.

- **Using a cell reference** – highlight or delete the existing cell reference in the Name Box on the Formula Bar (Figure 89 on page 115). Type the new cell reference of the cell you want to move to and press *Enter* key. Cell references are case-insensitive: for example, typing either a3 or A3 will move the focus to cell A3.

- **Using the Navigator** – click on the **Navigator** icon on the Standard toolbar or press the *F5* key to open the **Navigator** dialog (Figure 97) or click the **Navigator Tab** button in the open Sidebar. Type the cell reference into the Column and Row fields and press the *Enter* key.

- **Using the Enter key** – pressing *Enter* moves the cell focus down in a column to the next row. Pressing *Shift+Enter* moves the focus up in a column to the next row.

- **Using the Tab key** – pressing Tab moves the cell focus right in a row to the next column. Pressing *Shift+Tab* moves the focus to the left in a row to the next column.

- **Using the arrow keys** – pressing the arrow keys on the keyboard moves the cell focus in the direction of the arrow pressed.
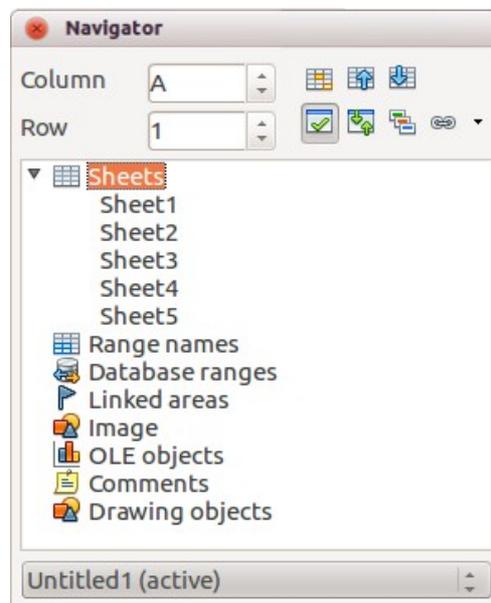
Figure 97: Navigator dialog in Calc

- **Using Home**, **End**, **Page Up** and **Page Down**
  - *Home* moves the cell focus to the start of a row.
  - *End* moves the cell focus to the last cell on the right in the row that contains data.
  - *Page Down* moves the cell focus down one complete screen display.
  - *Page Up* moves the cell focus up one complete screen display.

Sheet navigation

Each sheet in a spreadsheet is independent of the other sheets in a spreadsheet, though references can be linked from one sheet to another sheet. There are three ways to navigate between different sheets in a spreadsheet.

- **Using the Navigator** – when the Navigator is open (Figure 97), double-clicking on any of the listed sheets selects the sheet.

- **Using the keyboard** – using key combinations *Ctrl+Page Down* moves one sheet to the right and *Ctrl+Page Up* moves one sheet to the left.
- **Using the mouse** – clicking on one of the sheet tabs at the bottom of the spreadsheet selects that sheet.

If your spreadsheet contains a lot of sheets, then some of the sheet tabs may be hidden behind the horizontal scroll bar at the bottom of the screen. If this is the case:

- Using the four buttons to the left of the sheet tabs can move the tabs into view (Figure 98).
- Dragging the scroll bar edge to the right may reveal all the tabs.
- Right-clicking on any of the arrows opens a context menu where you can select a sheet (see Figure 99).

🟢 **Note**

When you insert a new sheet into your spreadsheet, Calc automatically uses the next number in the numeric sequence as a name. Depending on which sheet is open when you insert a new sheet, and the method you use to insert a new sheet, the new sheet may not be in numerical order. It is recommended to rename sheets in your spreadsheet to make them more recognizable.
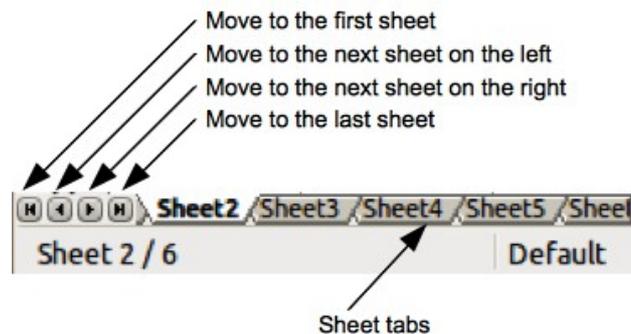
Figure 98: Navigating sheet tabs
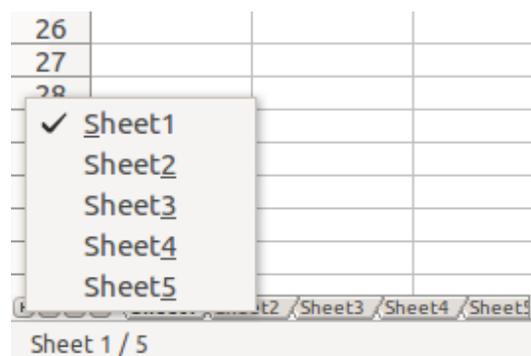
Figure 99: Right-click any arrow button

Keyboard navigation

Pressing a key or a combination of keys allows you to navigate a spreadsheet using the keyboard. A key combination is where you press more than one key together, for example *Ctrl+Home* key combination to move to cell A1. Table 4 lists the keys and key combinations you can use for spreadsheet navigation in Calc.

Table 4. Keyboard cell navigation

Keyboard shortcut	Cell navigation
→	Moves cell focus right one cell
←	Moves cell focus left one cell
↑	Moves cell focus up one cell
↓	Moves cell focus down one cell
Ctrl+→	Moves cell focus to the first column on the right containing data in that row if cell focus is on a blank cell. Moves cell focus to the last column on the right in the same range of occupied cells in that row if cell focus is on a cell containing data. Moves cell focus to the last column on the right in the spreadsheet if there are no more cells containing data.
Ctrl+←	Moves cell focus to the last column on the left containing data in that row if cell focus is on a blank cell. Moves cell focus to the first column on the left in the same range of occupied cells in that row if cell focus is on a cell containing data. Moves cell focus to the first column in that row if there are no more cells containing data.
Ctrl+↑	Moves cell focus from a blank cell to the first cell above containing data in the same column. Moves cell focus to the first row in the same range of occupied cells if cell focus is on a cell containing data. Moves cell focus from the last cell containing data to the cell in the same column in the last row of the spreadsheet.
Ctrl+↓	Moves cell focus from a blank cell to the first cell below containing data in the same column. Moves cell focus to the last row in the same range of occupied cells in that column if cell focus is on a cell containing data. Moves cell focus from the last cell containing data to the cell in the same column in the last row of the spreadsheet.
Ctrl+Home	Moves cell focus from anywhere on the spreadsheet to Cell A1 on the same sheet.
Ctrl+End	Moves cell focus from anywhere on the spreadsheet to the last cell in the lower right-hand corner of the rectangular area of cells containing data on the same sheet.
Alt+Page Down	Moves cell focus one screen to the right (if possible).
Alt+Page Up	Moves cell focus one screen to the left (if possible).
Ctrl+Page Down	Moves cell focus to the same cell on the next sheet to the right in sheet tabs if the spreadsheet has more than on sheet.
Ctrl+Page Up	Moves cell focus to the same cell on the next sheet to the left in sheet tabs if the spreadsheet has more than on sheet.
Tab	Moves cell focus to the next cell on the right
Shift+Tab	Moves cell focus to the next cell on the left
Enter	Down one cell (unless changed by user)
Shift+Enter	Up one cell (unless changed by user)

Customizing the Enter key

You can customize the direction in which the *Enter* key moves the cell focus by going to **Tools > Options > LibreOffice Calc > General**. Select the direction cell focus moves from the drop-down list. Depending on the file being used or the type of data being entered, setting a different direction can be useful. The *Enter* key can also be used to switch into and out of editing mode. Use the first two options under *Input settings* in Figure 100 to change the *Enter* key settings.
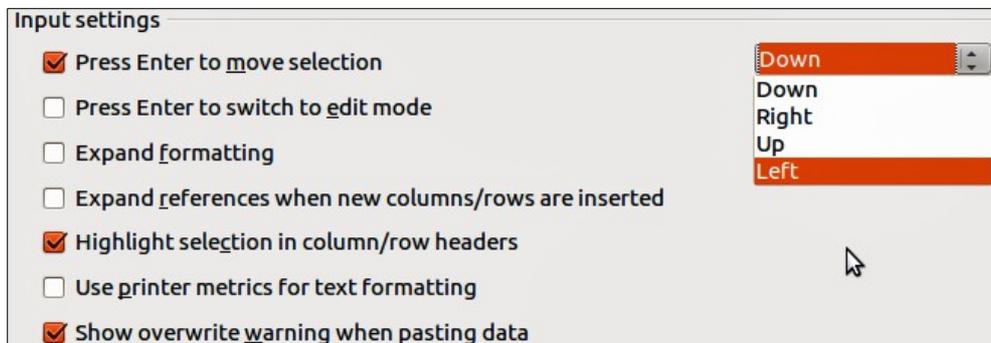
Figure 100: Customizing the Enter key

Selecting items in a spreadsheet

Selecting cells

Single cell

Left-click in the cell. You can verify your selection by looking in the Name Box on the Formula Bar (Figure 89 on page 115).

Range of contiguous cells

A range of cells can be selected using the keyboard or the mouse.

To select a range of cells by dragging the mouse cursor:

1) Click in a cell.
2) Press and hold down the left mouse button.
3) Move the mouse around the screen.
4) Once the desired block of cells is highlighted, release the left mouse button.

To select a range of cells without dragging the mouse:

1) Click in the cell which is to be one corner of the range of cells.
2) Move the mouse to the opposite corner of the range of cells.
3) Hold down the *Shift* key and click.

> **Tip**
>
> You can also select a contiguous range of cells by first clicking in the **Selection mode** field on the Status Bar (Figure 91 on page 117) and selecting **Extending selection** before clicking in the opposite corner of the range of cells. Make sure to change back to **Standard selection** or you may find yourself extending a cell selection unintentionally.

To select a range of cells without using the mouse:

1) Select the cell that will be one of the corners in the range of cells.

2) While holding down the *Shift* key, use the cursor arrows to select the rest of the range.

▶ **Tip**

You can also directly select a range of cells using the Name Box. Click into the Name Box on the Formula Bar (Figure 89 on page 115). To select a range of cells, enter the cell reference for the upper left-hand cell, followed by a colon (:), and then the lower right-hand cell reference. For example, to select the range that would go from A3 to C6, you would enter *A3:C6*.

Range of non-contiguous cells

1) Select the cell or range of cells using one of the methods above.

2) Move the mouse pointer to the start of the next range or single cell.

3) Hold down the *Ctrl* key and click or click-and-drag to select another range of cells to add to the first range.

4) Repeat as necessary.

Selecting columns and rows

Single column or row

To select a single column, click on the column header (Figure 88 on page 114).

To select a single row, click on the row header.

Multiple columns or rows

To select multiple columns or rows that are contiguous:

1) Click on the first column or row in the group.

2) Hold down the *Shift* key.

3) Click the last column or row in the group.

To select multiple columns or rows that are not contiguous:

1) Click on the first column or row in the group.

2) Hold down the *Ctrl* key.

3) Click on all of the subsequent columns or rows while holding down the *Ctrl* key.

Entire sheet

To select the entire sheet, click on the small box between the column headers and the row headers (Figure 101), or use the key combination *Ctrl+A* to select the entire sheet, or go to **Edit** on the Menu bar and select **Select All**.
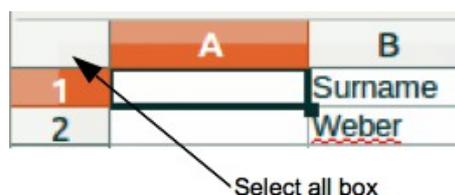
Figure 101: Select All box

Selecting sheets

You can select either one or multiple sheets in Calc. It can be advantageous to select multiple sheets, especially when you want to make changes to many sheets at once.

Single sheet

Click on the sheet tab for the sheet you want to select. The tab for the selected sheet becomes white (default Calc setup).

Multiple contiguous sheets

To select multiple contiguous sheets:

1) Click on the sheet tab for the first desired sheet.

2) Move the mouse pointer over the sheet tab for the last desired sheet.

3) Hold down the *Shift* key and click on the sheet tab.

4) All tabs between these two selections will turn white (default Calc setup). Any actions that you perform will now affect all highlighted sheets.

Multiple non-contiguous sheets

To select multiple non-contiguous sheets:

1) Click on the sheet tab for the first desired sheet.

2) Move the mouse pointer over the sheet tab for the second desired sheet.

3) Hold down the *Ctrl* key and click on the sheet tab.

4) Repeat as necessary.

5) The selected tabs will turn white (default Calc setup). Any actions that you perform will now affect all highlighted sheets.

All sheets

Right-click a sheet tab and choose **Select All Sheets** from the context menu.

Working with columns and rows

Inserting columns and rows

 Note

> When you insert a column, it is inserted to the left of the highlighted column. When you insert a row, it is inserted above the highlighted row.
>
> When you insert columns or rows, the cells take the formatting of the corresponding cells in the next column to left or the row above.

Single column or row

Using the **Insert** menu:

1) Select a cell, column, or row where you want the new column or row inserted.

2) Go to **Insert** on the Menu bar and select either **Insert > Columns** or **Insert > Rows.**

Using the mouse:

1) Select a column or row where you want the new column or row inserted.

2) Right-click the column or row header.

3) Select **Insert Columns** or **Insert Rows** from the context menu.

Multiple columns or rows

Multiple columns or rows can be inserted at once rather than inserting them one at a time.

1) Highlight the required number of columns or rows by holding down the left mouse button on the first one and then dragging across the required number of identifiers.

2) Proceed as for inserting a single column or row above.

Deleting columns and rows

Single column or row

To delete a single column or row:

1) Select a cell in the column or row you want to delete.

2) Go to **Edit** on the Menu bar and select **Delete Cells** or right-click and select **Delete** from the context menu.

3) Select the option you require from the **Delete Cells** dialog (Figure 102).
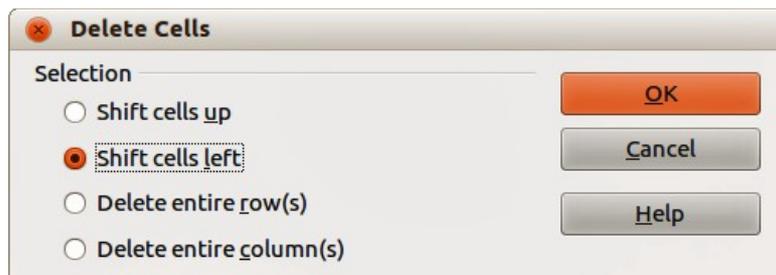
Figure 102: Delete Cells dialog

Alternatively:

1) Click in the column or header to select the column or row.

2) Go to **Edit** on the Menu bar and select **Delete Cells** or right-click and select **Delete Columns** or **Delete Rows** from the context menu.

Multiple columns or rows

To delete multiple columns or rows:

1) Select the columns or rows, see "Multiple columns or rows" on page 126 for more information.

2) Go to **Edit** on the Menu bar and select **Delete Cells** or right-click and select **Delete Columns** or **Delete Rows** from the context menu.

Working with sheets

Inserting new sheets

Click on the **Add Sheet** icon . This inserts a new sheet after the last sheet in the spreadsheet without opening the **Insert Sheet** dialog. The following methods open the **Insert Sheet** dialog (Figure 103) where you can position the new sheet, create more than one sheet, name the new sheet, or select a sheet from a file.

1) Select the sheet where you want to insert a new sheet, then go to **Insert > Sheet** on the Menu bar.

2) Right-click on the sheet tab where you want to insert a new sheet and select **Insert Sheet** from the context menu.

3) Click in the empty space at the end of the sheet tabs.

4) Right-click in the empty space at the end of the sheet tabs and select **Insert Sheet** from the context menu.
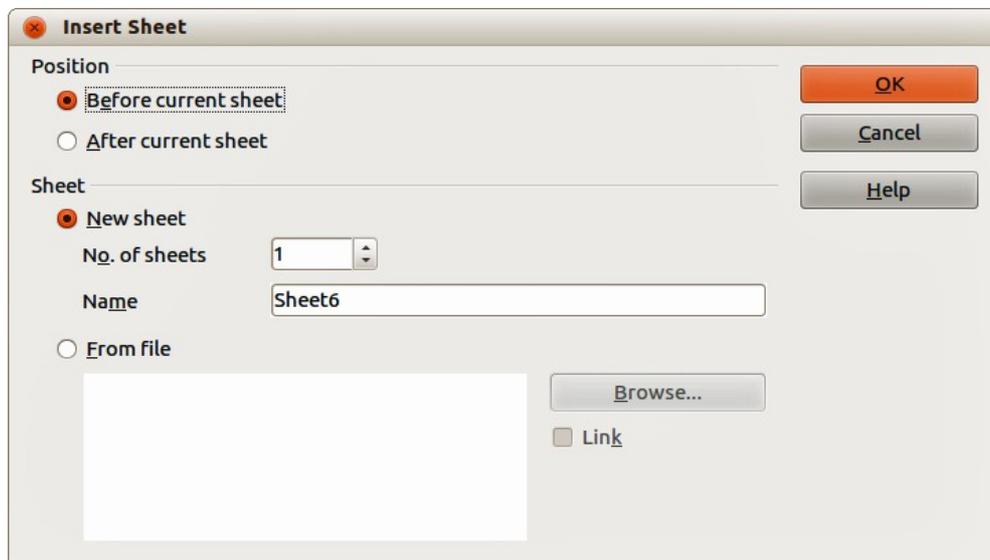
Figure 103: Insert Sheet dialog

Moving and copying sheets

You can move or copy sheets within the same spreadsheet by dragging and dropping or using the **Move/Copy Sheet** dialog. To move or copy a sheet into a different spreadsheet, you have to use the **Move/Copy Sheet** dialog.

Dragging and dropping

To move a sheet to a different position within the same spreadsheet, click and hold on the sheet tab and drag it to its new position before releasing the mouse button.

To *copy* a sheet within the same spreadsheet, hold down the *Ctrl* key (*Option* key on Mac) then click on the sheet tab and drag it to its new position before releasing the mouse button. The mouse pointer may change to include a plus sign depending on the setup of your operating system.

Using a dialog

Use the **Move/Copy Sheet** dialog (Figure 104) to specify exactly whether you want the sheet in the same or a different spreadsheet, its position within the spreadsheet, the sheet name when you move or copy the sheet.

1) In the current document, right-click on the sheet tab you wish to move or copy and select **Move/Copy Sheet** from the context menu or go to **Edit > Sheet > Move/Copy** on the Menu bar.

2) Select **Move** to move the sheet or **Copy** to copy the sheet.

3) Select the spreadsheet where you want the sheet to be placed from the drop-down list in **To document**. This can be the same spreadsheet, another spreadsheet already open, or you can create a new spreadsheet.

4) Select the position in **Insert before** where you want to place the sheet.

5) Type a name in the **New name** text box if you want to rename the sheet when it is moved or copied. If you do not enter a name, Calc creates a default name (Sheet 1, Sheet 2, and so on).

6) Click **OK** to confirm the move or copy and close the dialog.

Caution

When you move or copy to another spreadsheet or a new spreadsheet, a conflict may occur with formulas linked to other sheets in the previous location.
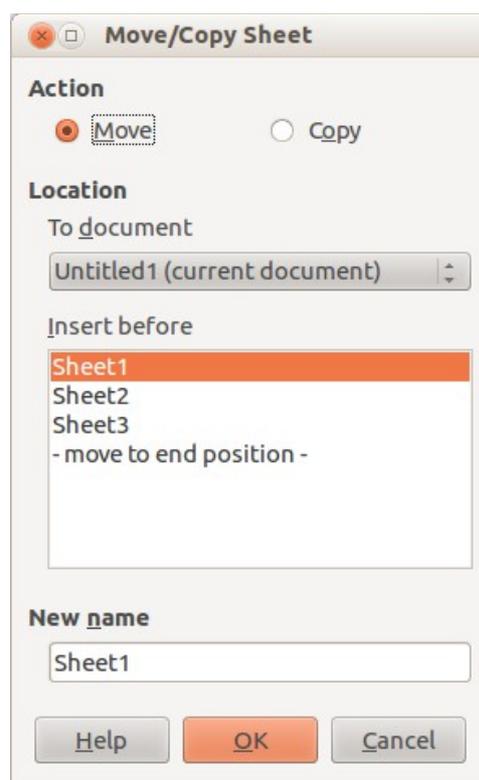
Figure 104: Move/Copy Sheet dialog

Deleting sheets

To delete a single sheet, right-click on the sheet tab you want to delete and select **Delete Sheet** from the context menu, or go to **Edit > Sheet > Delete** from on the Menu bar. Click **Yes** to confirm the deletion.

To delete multiple sheets, select the sheets (see "Selecting sheets" on page 127), then right-click one of the sheet tabs and select **Delete Sheet** from the context menu, or go to **Edit > Sheet > Delete** from on the Menu bar. Click **Yes** to confirm the deletion.

Renaming sheets

By default, the name for each new sheet added is *Sheet*X, where *X* is the number of the next sheet to be added. While this works for a small spreadsheet with only a few sheets, it can become difficult to identify sheets when a spreadsheet contains many sheets.

You can rename a sheet using one of the following methods:

- Enter the name in the **Name** text box when you create the sheet using the Insert Sheet dialog (Figure 103 on page 129).
- Right-click on a sheet tab and select **Rename Sheet** from the context menu to replace the existing name with a different one.
- Double-click on a sheet tab to open the **Rename Sheet** dialog.

🟢 Note

Sheet names must start with either a letter or a number; other characters including spaces are not allowed. Apart from the first character of the sheet name, permitted characters are letters, numbers, spaces, and the underscore character. Attempting to rename a sheet with an invalid name will produce an error message.

Viewing Calc

Changing document view

Use the zoom function to show more or fewer cells in the window when you are working on a spreadsheet. For more about zoom, see *Chapter 1 Introducing LibreOffice* in this guide.

Freezing rows and columns

Freezing locks a number of rows at the top of a spreadsheet or a number of columns on the left of a spreadsheet or both rows and columns. Then, when moving around within a sheet, the cells in frozen rows and columns always remain in view.

Figure 105 shows some frozen rows and columns. The heavier horizontal line between rows 3 and 23 and the heavier vertical line between columns F and Q indicate that rows 1 to 3 and columns A to F are frozen. The rows between 3 and 23 and the columns between F and Q have been scrolled off the page.

	A	B	C	D	E	F	Q	R
1		Surname	First Name	Address	City	Country		
2		Weber	Jean	PO Box 640	Airlie Beach	Australia		
3		Schofield	Peter	Jankowskiego	Opole	Poland		
23								
24								

Figure 105: Frozen rows and columns

Freezing rows or columns

1) Click on the row header below the rows where you want the freeze, or click on the column header to the right of the columns where you want the freeze.

2) Go to **Window** on the Menu bar and select **Freeze**. A heavier line appears between the rows or columns indicating where the freeze has been placed.

Freezing rows and columns

1) Click into the cell that is immediately below the rows you want frozen and immediately to the right of the columns you want frozen.

2) Go to **Window** on the Menu bar and select **Freeze**. A heavier line appears between the rows or columns indicating where the freeze has been placed.

Unfreezing

To unfreeze rows or columns, go to **Window** on the Menu bar and uncheck **Freeze**. The heavier lines indicating freezing will disappear.

Splitting the screen

Another way to change the view is by splitting the screen your spreadsheet is displayed in (also known as splitting the window). The screen can be split horizontally, vertically, or both giving you up to four portions of the spreadsheet in view at any one time. An example of splitting the screen is shown in Figure 106 where a split is indicated by additional window borders within the sheet.

Why would you want to do this? For example, consider a large spreadsheet in which one cell contains a number that is used by three formulas in other cells. Using the split-screen technique, you can position the cell containing the number in one section and each of the cells with formulas in the other sections. You can then change the number in one cell and watch how it affects each of the formulas.

	A	B	C
1		Beta=	3.2000
2		A0=	0.1000
7	A1=	Beta*A0*(1*A0)	0.2880
8	A2=	Beta*A1*(1*A1)	0.6562
9	A3=	Beta*A2*(1*A2)	0.7219
10	A4=	Beta*A3*(1*A3)	0.6424
11	A5=	Beta*A0*(1*A4)	0.7351
12			

Figure 106: Split screen example

Splitting horizontally or vertically

1) Click on the row header below the rows where you want to split the screen horizontally or click on the column header to the right of the columns where you want to split the screen vertically.

2) Go to **Window** on the Menu bar and select **Split.** Window borders appear between the rows or columns indicating where the split has been placed, as shown in Figure 107.

3) Alternatively

– For a horizontal split, drag the new horizontal window border beneath the row where you want the horizontal split positioned.

– For a vertical split, drag the new vertical window border across to the right of the column where you want the vertical split positioned.

Splitting horizontally and vertically

1) Click in the cell that is immediately below the rows where you want to split the screen horizontally and immediately to the right of the columns where you want to split the screen vertically.

2) Go to **Window** on the Menu bar and select **Split.** Heavy black lines appear between the rows or columns indicating where the split has been placed.
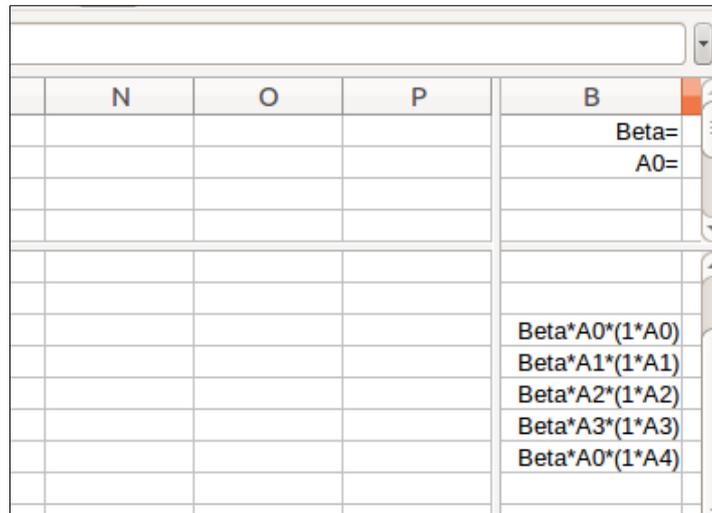
Figure 107: Split screen window borders

Removing split views

To remove a split view, do one of the following:

- Drag the split window borders back to their places at the ends of the scroll bars.

- Go to **Window** on the Menu bar and uncheck **Split.**

Using the keyboard

Most data entry in Calc can be accomplished using the keyboard.

Numbers

Click in the cell and type in a number using the number keys on either the main keyboard or numeric keypad. By default, numbers are right aligned in a cell.

Minus numbers

To enter a negative number, either type a minus (–) sign in front of the number or enclose the number in parentheses (), for example (1234). The result for both methods of entry will be the same, for example -1234.

Leading zeroes

To retain a minimum number of integer characters in a cell when entering numbers in order to retain the number format, for example 1234 and 0012, leading zeros have to be added using one of the following methods:

Method 1

1) With the cell selected, right-click on the cell, select **Format Cells** from the context menu or go to **Format > Cells** on the Menu bar or use the keyboard shortcut *Ctrl+1* to open the **Format Cells** dialog (Figure 108).
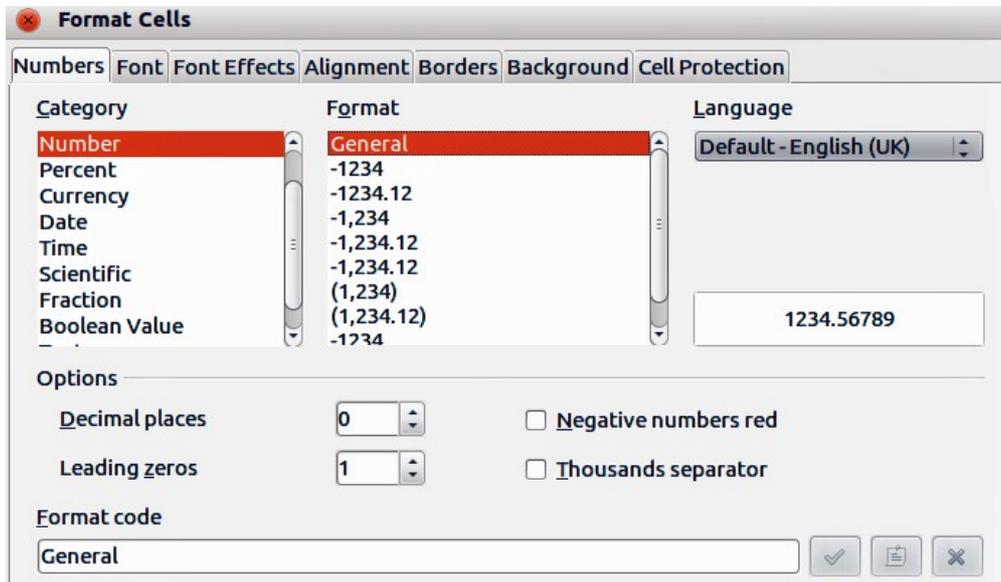
Figure 108: Format Cells dialog – Numbers page

2) Make sure the **Numbers** tab is selected then select *Number* in the *Category* list.

3) In **Options > Leading Zeros**, enter the minimum number of characters required. For example, for four characters, enter 4. Any number less than four characters will have leading zeros added, for example 12 becomes 0012.

4) Click **OK**. The number entered retains its number format and any formula used in the spreadsheet will treat the entry as a number in formula functions.

Method 2

1) Select the cell.

2) Open the Sidebar (**View > Sidebar**) and click the **Open Panel** (**+**) icon on the **Number Format** panel to open it.

3) Select **Number** in the **Category** list box.

4) Set the **Leading zeroes** value box to **4**. Formatting is applied immediately.
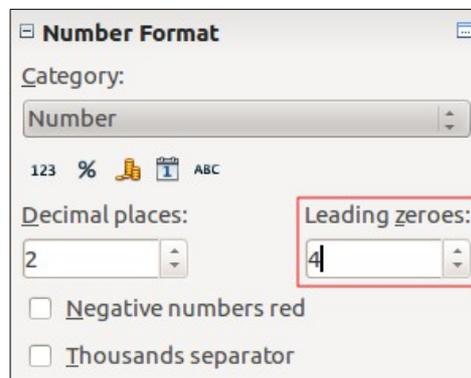
Figure 109: Set Leading zeroes

If a number is entered with leading zeroes, for example 01481, without first setting the Leading zeros parameter, then by default Calc will automatically drop the leading 0. To preserve leading zeros in a number:

1) Type an apostrophe (') before the number, for example '01481.

2) Move the cell focus to another cell. The apostrophe is automatically removed, the leading zeros are retained and the number is converted to text left aligned.

Numbers as text

Numbers can also be entered as text using one of the following methods.

Method 1
1) With the cell selected, right-click on the cell and select **Format Cells** from the context menu or go to **Format > Cells** on the Menu bar or use the keyboard shortcut *Ctrl+1* to open the **Format Cells** dialog (Figure 108).

2) Make sure the **Numbers** page is selected, then select *Text* from the *Category* list.

3) Click **OK** and the number, when entered, is converted to text and, by default, left aligned.

Method 2
1) Select the cell.

2) Open the Sidebar (**View > Sidebar**) and click the **Open Panel** (**+**) icon on the **Number Format** panel.

3) Select **Text** in the **Category** list box. Formatting is applied to the cell immediately.

4) Click back on the cell. Enter the number and move focus from the cell to have the data formatted.

🟢 **Note**

Any numbers that have been formatted as text in a spreadsheet will be treated as a zero by any formulas used in the spreadsheet. Formula functions will ignore text entries.

Text

Click in the cell and type the text. By default, text is left-aligned in a cell.

Date and time

Select the cell and type the date or time.

You can separate the date elements with a slash (/) or a hyphen (–) or use text, for example 10 Oct 2012. The date format automatically changes to the selected format used by Calc.

When entering a time, separate time elements with colons, for example 10:43:45. The time format automatically changes to the selected format used by Calc.

To change the date or time format used by Calc, use one of the following methods.

Method 1
1) With the cell selected, right-click on the cell and select **Format Cells** from the context menu, or go to **Format > Cells** on the Menu bar, or use the keyboard shortcut *Ctrl+1*, to open the **Format Cells** dialog (Figure 108).

2) Make sure the **Numbers** page is selected, then select *Date* or *Time* from the *Category* list.

3) Select the date or time format you want to use from the *Format* list.

4) Click **OK**.

Method 2

1) Select the cell.

2) Open the Sidebar (**View > Sidebar**) and click the **Open Panel** (**+**) icon on the **Number Format** panel.

3) Select **Date** in the **Category** list box, or click the **Date** icon below the list box.

4) Click the **More Options** button in the panel title bar to open the **Format Cells** dialog.

5) Select the date or time format you want to use from the *Format* list.

6) Click **OK**.
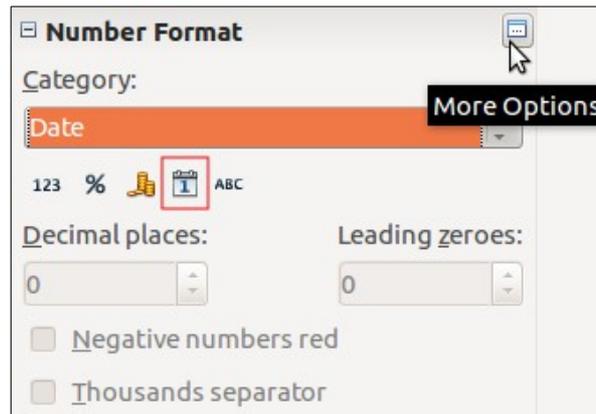
Figure 110: Select Date and More Options

Autocorrection options

Calc automatically applies many changes during data input using autocorrection, unless you have deactivated any autocorrect changes. You can also undo any autocorrection changes by using the keyboard shortcut *Ctrl+Z* or manually by going back to the change and replacing the autocorrection with what you want to actually see.

To change the autocorrect options, go to **Tools > AutoCorrect Options** on the Menu bar to open the **AutoCorrect** dialog (Figure 111).

Replace

Edits the replacement table for automatically correcting or replacing words or abbreviations in your document.

Exceptions

Specify the abbreviations or letter combinations that you do not want LibreOffice to correct automatically.

Options

Select the options for automatically correcting errors as you type and then click **OK**.

Localized options

Specify the AutoCorrect options for quotation marks and for options that are specific to the language of the text.

Reset

Resets modified values back to the LibreOffice default values.
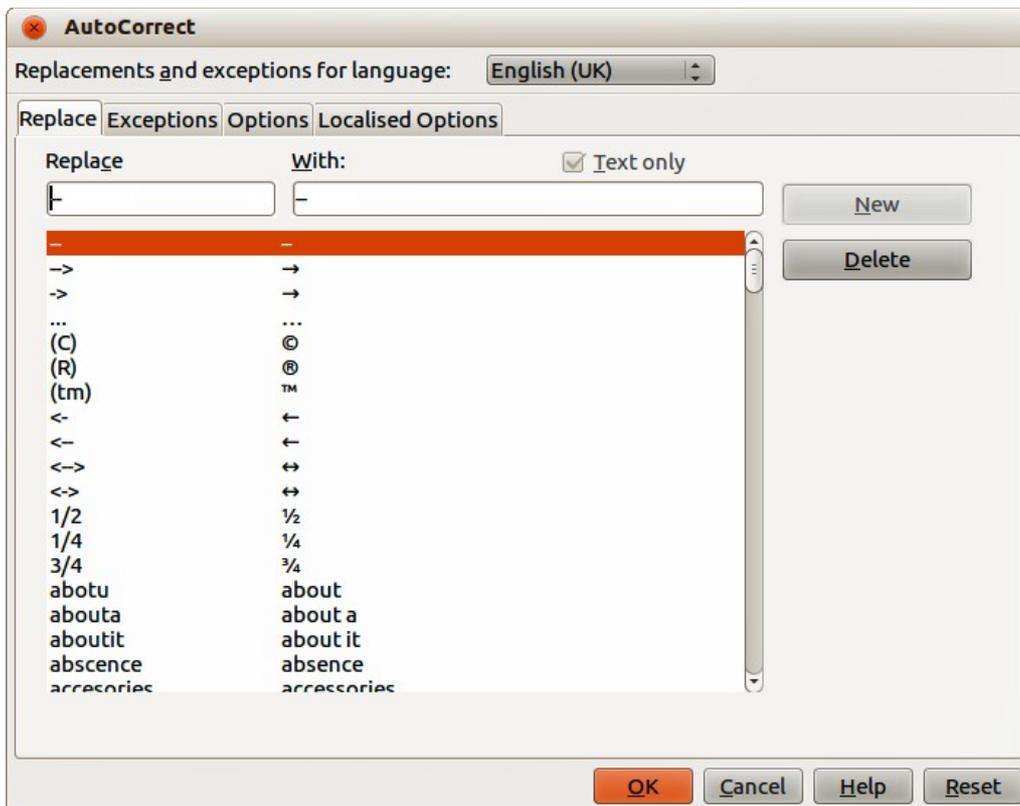
Figure 111: AutoCorrect dialog

Deactivating automatic changes

Some AutoCorrect settings are applied when you press the spacebar after you enter data. To turn off or on Calc AutoCorrect, go to **Tools > Cell Contents** on the Menu bar and deselect or select **AutoInput**.

Speeding up data entry

Entering data into a spreadsheet can be very labor-intensive, but Calc provides several tools for removing some of the drudgery from input.

The most basic ability is to drop and drag the contents of one cell to another with a mouse. Many people also find AutoInput helpful. Calc also includes several other tools for automating input, especially of repetitive material. They include the fill tool, selection lists, and the ability to input information into multiple sheets of the same document.

Using the Fill tool

The Calc Fill tool is used to duplicate existing content or create a series in a range of cells in your spreadsheet (Figure 112).

1) Select the cell containing the contents you want to copy or start the series from.

2) Drag the mouse in any direction or hold down the *Shift* key and click in the last cell you want to fill.

3) Go to **Edit > Fill** on the Menu bar and select the direction in which you want to copy or create data (**Up**, **Down**, **Left** or **Right**) or **Series** from the context menu.

Alternatively, you can use a shortcut to fill cells.

1) Select the cell containing the contents you want to copy or start the series from.

2) Move the cursor over the small square in the bottom right corner of the selected cell. The cursor will change shape.

3) Click and drag in the direction you want the cells to be filled. If the original cell contained text, then the text will automatically be copied. If the original cell contained a number, a series will be created.
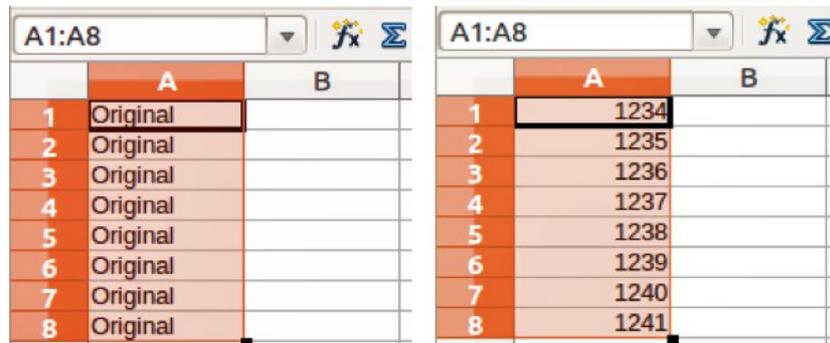
Figure 112: Using the Fill tool

Using a fill series

When you select a series fill from **Edit > Fill > Series**, the **Fill Series** dialog (Figure 113) opens. Here you can select the type of series you want.
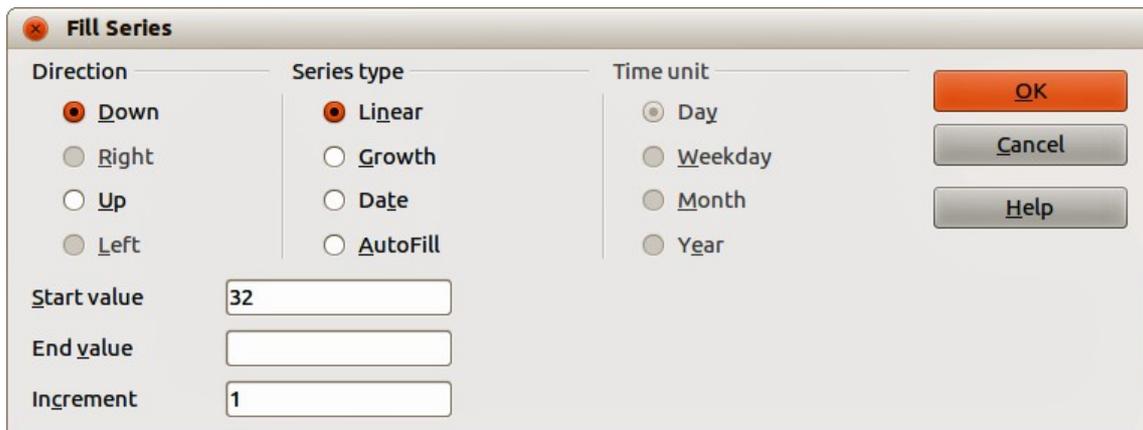
Figure 113: Fill Series dialog

- **Direction** – determines the direction of series creation.

  – *Down* – creates a downward series in the selected cell range for the column using the defined increment to the end value.

  – *Right* – creates a series running from left to right within the selected cell range using the defined increment to the end value.

  – *Up* – creates an upward series in the cell range of the column using the defined increment to the end value.

  – *Left* – creates a series running from right to left in the selected cell range using the defined increment to the end value.

- **Series Type** – defines the series type.
  - *Linear* – creates a linear number series using the defined increment and end value.
  - *Growth* – creates a growth series using the defined increment and end value.
  - *Date* – creates a date series using the defined increment and end date.
  - *AutoFill* – forms a series directly in the sheet. The AutoFill function takes account of customized lists. For example, by entering January in the first cell, the series is completed using the list defined in **LibreOffice > Tools > Options > LibreOffice Calc > Sort Lists**. AutoFill tries to complete a value series by using a defined pattern. For example, a numerical series using 1,3,5 is automatically completed with 7,9,11,13; a date and time series using 01.01.99 and 15.01.99, an interval of fourteen days is used.
- **Unit of Time** – in this area you specify the desired unit of time. This area is only active if the Date option has been chosen in the Series type area.
  - *Day* – use the Date series type and this option to create a series using seven days.
  - *Weekday* – use the Date series type and this option to create a series of five day sets.
  - *Month* – use the Date series type and this option to form a series from the names or abbreviations of the months.
  - *Year* – use the Date series type and this option to create a series of years.
- **Start Value** – determines the start value for the series. Use numbers, dates or times.
- **End Value** – determines the end value for the series. Use numbers, dates or times.
- **Increment** – determines the value by which the series of the selected type increases by each step. Entries can only be made if the linear, growth or date series types have been selected.
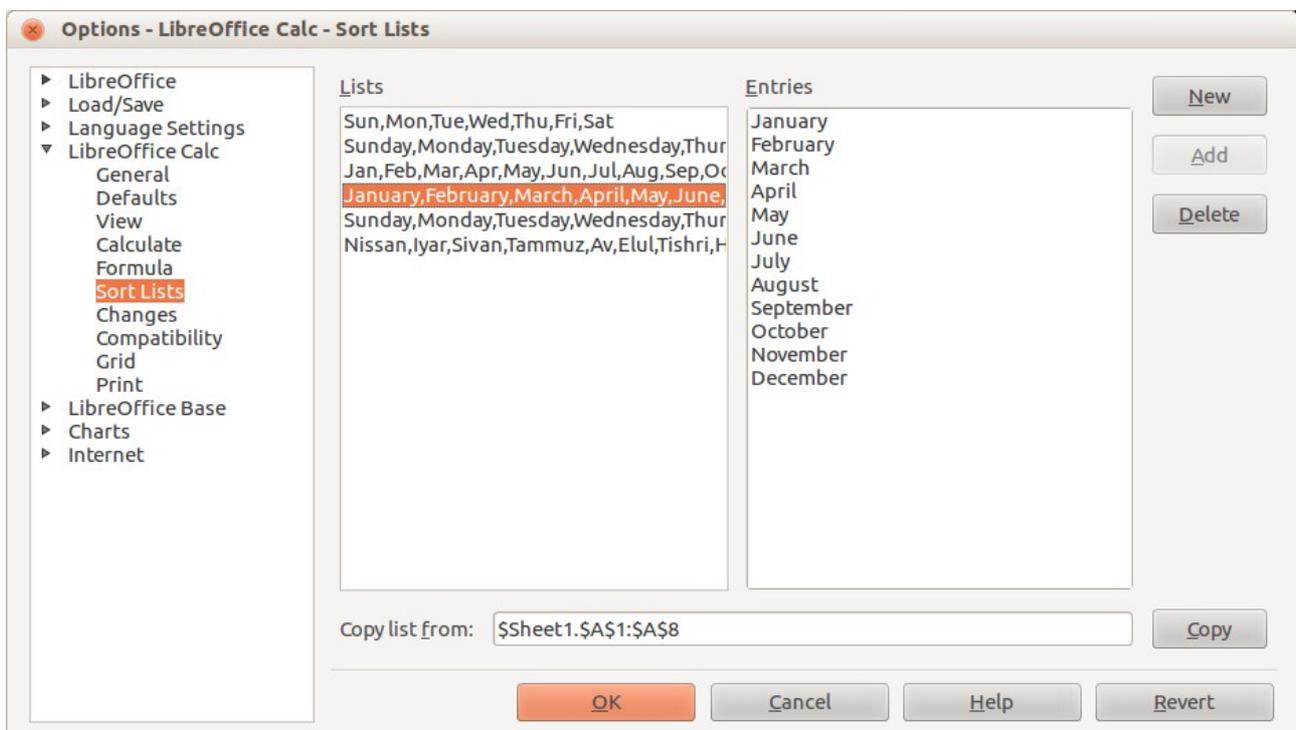
Figure 114: Sort Lists dialog

Defining a fill series

To define your own fill series:

1) Go to **Tools > Options > LibreOffice Calc > Sort Lists** to open the Sort Lists dialog (Figure 114). This dialog shows the previously-defined series in the *Lists* box on the left and the contents of the highlighted list in the *Entries* box.

2) Click **New** and the *Entries* box is cleared.

3) Type the series for the new list in the *Entries* box (one entry per line).

4) Click **Add** and the new list will now appear in the *Lists* box.

5) Click **OK** to save the new list.

Using selection lists

Selection lists are available only for text and are limited to using only text that has already been entered in the same column.

1) Select a blank cell in a column that contains cells with text entries.

2) Right-click and select **Selection Lists** from the context menu. A drop-down list appears listing any cell in the same column that either has at least one text character or whose format is defined as text.

3) Click on the text entry you require and it is entered into the selected cell.

Sharing content between sheets

You might want to enter the same information in the same cell on multiple sheets, for example to set up standard listings for a group of individuals or organizations. Instead of entering the list on each sheet individually, you can enter the information in several sheets at the same time.

1) Go to **Edit > Sheet > Select** on the Menu bar to open the **Select Sheets** dialog.
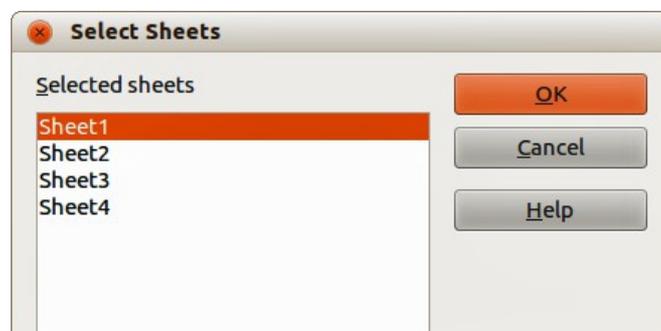
Figure 115: Select Sheets dialog

2) Select the individual sheets where you want the information to be repeated. Use the *Shift* and *Ctrl* (*Options* on Mac) keys to select multiple sheets.

3) Click **OK** to select the sheets and the sheet tabs will change color.

4) Enter the information in the cells on the first sheet where you want it to appear and it will be repeated in all the selected sheets.

Note

This technique automatically overwrites, without any warning, any information that is already in the cells on the selected sheets. Make sure you deselect the additional sheets when you are finished entering information that is going to be repeated before continuing to enter data into your spreadsheet.

Validating cell contents

When creating spreadsheets for other people to use, validating cell contents ensures that they enter data that is valid and appropriate for the cell. You can also use validation in your own work as a guide to entering data that is either complex or rarely used.

Fill series and selection lists can handle some types of data, but are limited to predefined information. To validate new data entered by a user, select a cell and go to **Data > Validity** on the Menu bar to define the type of contents that can be entered in that cell. For example, a cell may require a date or a whole number with no alphabetic characters or decimal points, or a cell may not be left empty.

Depending on how validation is set up, validation can also define the range of contents that can be entered, provide help messages explaining the content rules set up for the cell and what users should do when they enter invalid content. You can also set the cell to refuse invalid content, accept it with a warning, or start a macro when an error is entered. See the *Calc Guide Chapter 2 Entering, Editing and Formatting Data* for more information on validating cell contents.

Editing data

Deleting data

Deleting data only
Data can be deleted from a cell without deleting any of the cell formatting. Click in the cell to select it and then press the *Delete* key.

Deleting data and formatting
Data and cell formatting can be deleted from a cell at the same time.

1) Click in the cell to select it.

2) Press the *Backspace* key, or right-click in the cell and select **Delete Contents** from the context menu, or go to **Edit > Delete Contents**) on the Menu bar to open the **Delete Contents** dialog (Figure 116). Here you can delete the different aspects of the data in the cell or to delete everything in the cell.
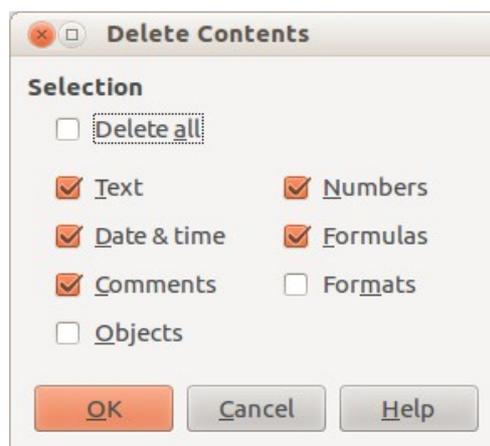
Figure 116: Delete Contents dialog

Replacing data

To completely replace data in a cell and insert new data, select the cell and type in the new data. The new data will replace the data already contained in the cell but will retain the original formatting used in the cell.

Alternatively, click in the Input Line on the Formula Bar (Figure 89 on page 115), then double-click on the data to highlight it completely and type the new data.

Editing data

Sometimes it is necessary to edit the contents of cell without removing all of the data from the cell. For example, changing the phrase "Sales in Qtr. 2" to "Sales rose in Qtr" can be done as follows.

Using the keyboard

1) Click in the cell to select it.

2) Press the *F2* key and the cursor is placed at the end of the cell.

3) Use the keyboard arrow keys to reposition the cursor where you want to start entering the new data in the cell.

4) When you have finished, press the *Enter* key and your editing changes are saved.

Using the mouse

1) Double-click on the cell to select it and place the cursor in the cell for editing.

2) Either:

   • Reposition the cursor to where you want to start entering the new data in the cell.

   • Single-click to select the cell.

3) Move the cursor to the Input Line on the Formula Bar (Figure 89 on page 115) and click at the position where you want to start entering the new data in the cell.

4) When you have finished, click away from the cell to deselect it and your editing changes are saved.

Formatting data

 Note

All the settings discussed in this section can also be set as a part of the cell style. See the *Calc Guide Chapter 4 Using Styles and Templates in Calc* for more information.

Multiple lines of text

Multiple lines of text can be entered into a single cell using automatic wrapping or manual line breaks. Each method is useful for different situations.

Automatic wrapping

To automatically wrap multiple lines of text in a cell, use one of the following methods.

Method 1

1) Right-click on the cell and select **Format Cells** from the context menu, or go to **Format > Cells** on the Menu bar, or press *Ctrl+1*, to open the Format Cells dialog.

2) Click on the *Alignment* tab (Figure 117).

3) Under **Properties**, select Wrap text automatically and click **OK**.
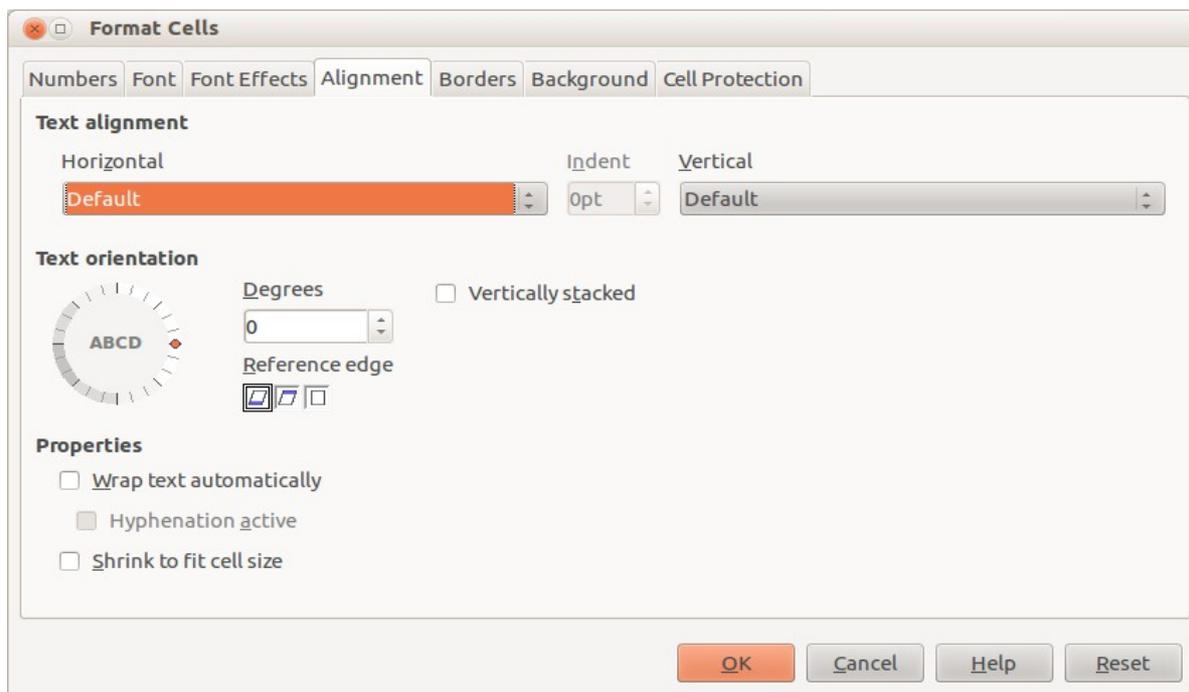
Figure 117: Format Cells dialog – Alignment page

Method 2

1) Select the cell.

2) Open the Sidebar (**View > Sidebar**) and click the **Open Panel** (**+**) icon on the **Alignment** panel.

3) Select the **Wrap text** option to apply the formatting immediately.
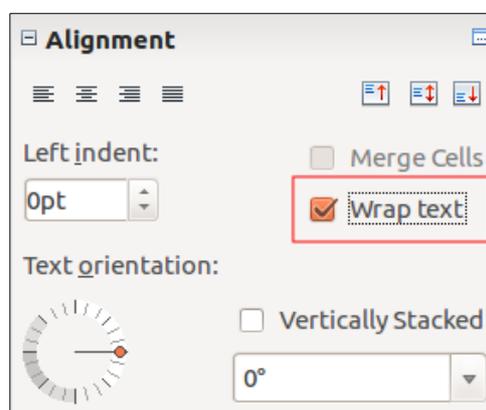
Figure 118: Wrap text formatting

Manual line breaks

To insert a manual line break while typing in a cell, press *Ctrl+Enter*. This method does not work with the cursor in the input line. When editing text, double-click the cell, then reposition the cursor to where you want the line break.

When a manual line break is entered, the cell width does not change and your text may still overlap the end of the cell. You have to change the cell width manually or reposition your line break so that your text does not overlap the end of the cell.

Shrinking text to fit the cell

The font size of the data in a cell can automatically adjust to fit inside cell borders. To do this, select the *Shrink to fit cell size* option under **Properties** in the Format Cells dialog (Figure 117) on the **Alignment** page. This dialog is also available by clicking the **More Options** button in the **Character** title bar of the **Properties** deck on the opened Sidebar.

Formatting numbers

Several different number formats can be applied to cells by using icons on the Formatting toolbar (highlighted in Figure 119). Select the cell, then click the relevant icon to change the number format.
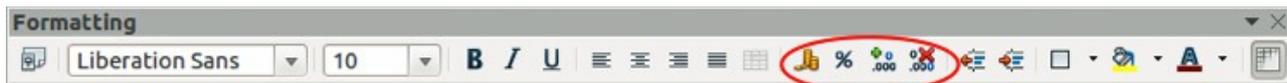
Figure 119: Number icons on Formatting toolbar

For more control or to select other number formats, use the *Numbers* page of the Format Cells dialog (Figure 108 on page 134):

- Apply any of the data types in the **Category** list to the data.
- Control the number of decimal places and leading zeros in **Options**.
- Enter a custom format code.
- The **Language** setting controls the local settings for the different formats such as the date format and currency symbol.

Some number formats are available from the Sidebar's **Number Format** panel in the Properties deck. Click the **More Options** button to open the Format Cells dialog described above.

Figure 120: Number format icons in the Number Format panel on the Sidebar

Formatting a font

To quickly select a font and format it for use in a cell:

1) Select the cell.
2) Click the small triangle on the right of the Font Name box on the Formatting toolbar (highlighted in Figure 121) and select a font from the drop-down list.
3) Click on the small triangle on the right of the Font Size on the Formatting toolbar and select a font size from the drop down list.

Figure 121: Font Name and Size on Formatting toolbar

4) To change the character format, click on the **Bold**, *Italic*, or Underline icons.

5) To change the paragraph alignment of the font, click on one of the four alignment icons (Left, Center, Right, Justified) ▤ ▤ ▤ ▤.

6) To change the font color, click the arrow next to the Font Color icon to display the color palette, then select the desired color.

The **Properties** deck of the Sidebar has two panels, **Character** and **Alignment**, which between them contain all the formatting controls from the Formatting toolbar.

To specify the language used in the cell, open the **Font** page on the Format Cells dialog. You can also select the **More Options** button on either of the Sidebar panels to open the Format Cells dialog. Changing language in a cell allows different languages to be used within the same document.

Use the *Font Effects* tab on the Format Cells dialog to set other font characteristics. See the *Calc Guide Chapter 4 Using Styles and Templates in Calc* for more information.

Formatting cell borders

To format the borders of a cell or a group of selected cells, click on the Borders icon ☐ on the Formatting toolbar, and select one of the border options displayed in the palette.

To format the line style and line color for the borders of a cell, click the small arrows next to the Line Style ▤ and Line Color (Border Color) ▤ icons on the Formatting toolbar. A line style palette and a border color palette respectively are displayed.

The **Cell Appearance** panel of the **Properties** deck in the Sidebar contains **Cell border**, **Line style** and L**ine color** controls.

For more control, including the spacing between cell borders and any data in the cell, use the *Borders* page of the Format Cells dialog (Figure 108 on page 134), where you can also define a shadow style. Clicking the **More Options** button on the **Cell Appearance** title bar, or clicking **More** in the panel's line style drop-down list, opens the Format Cells dialog at the *Borders* page.

See the *Calc Guide Chapter 4 Using Styles and Templates in Calc* for more information.

🟢 **Note**

Cell border properties apply only to the selected cells and can only be changed if you are editing those cells. For example, if cell C3 has a top border, that border can only be removed by selecting C3. It cannot be removed in C2 despite also appearing to be the bottom border for cell C2.

Formatting cell background

To format the background color for a cell or a group of cells, click the small arrow next to the Background Color icon on the Formatting toolbar. A color palette, similar to the Font Color palette, is displayed. You can also use the *Background* tab of the Format Cells dialog (Figure 108 on page 134). The **Cell Appearance** panel of the **Properties** deck in the Sidebar contains a **Cell background** control with a color palette. See the *Calc Guide Chapter 4 Using Styles and Templates in Calc* for more information.

AutoFormat of cells

Using AutoFormat

You can use Calc's AutoFormat feature to format a group of cells quickly and easily.

1) Select the cells in at least three columns and rows, including column and row headers, that you want to format.

2) Go to **Format > AutoFormat** on the Menu bar to open the **AutoFormat** dialog (Figure 122).

3) Select the type of format and format color from the list.

4) If necessary, click **More** to open **Formatting** if Formatting is not visible.

5) Select the formatting properties to be included in the AutoFormat function.

6) Click **OK**.
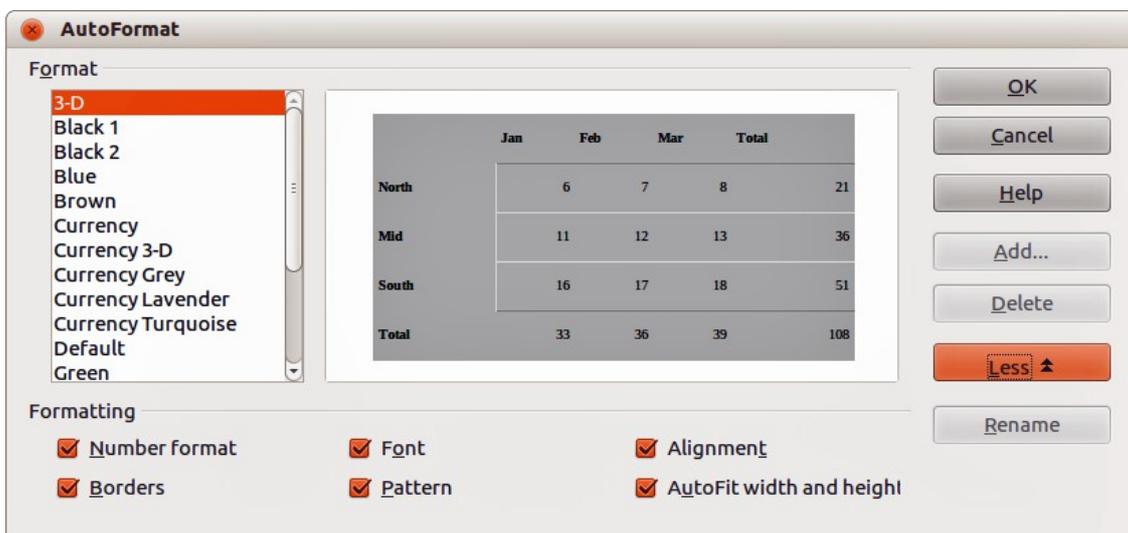
Figure 122: AutoFormat dialog

Defining a new AutoFormat

You can define a new AutoFormat so that it becomes available for use in all spreadsheets.

1) Format the data type, font, font size, cell borders, cell background and so on for a group of cells.

2) Go to **Edit > Select All** on the Menu bar to select the whole spreadsheet.

3) Go to **Format > AutoFormat** to open the AutoFormat dialog and the **Add** button is now active.

4) Click **Add**.

5) In the *Name* box of the Add AutoFormat dialog that opens, type a meaningful name for the new format.

6) Click **OK** to save. The new AutoFormat is now available in the *Format* list in the AutoFormat dialog.

Using themes

Calc comes with a predefined set of formatting themes that you can apply to spreadsheets. It is not possible to add themes to Calc and they cannot be modified. However, you can modify their styles after you apply them to a spreadsheet and the modified styles are only available for use for that spreadsheet when you save the spreadsheet.

To apply a theme to a spreadsheet:

1) Click the **Choose Themes** icon in the **Tools** toolbar. If this toolbar is not visible, go to **View > Toolbars** on the Menu bar and select **Tools**, and the **Theme Selection** dialog (Figure 123) opens. This dialog lists the available themes for the whole spreadsheet.

2) Select the theme that you want to apply. As soon as you select a theme, the theme styles are applied to the spreadsheet and are immediately visible.

3) Click **OK**.

4) If you wish, you can now open the Styles and Formatting window to modify specific styles. These modifications do not modify the theme; they only change the appearance of the style in the specific spreadsheet you are creating.
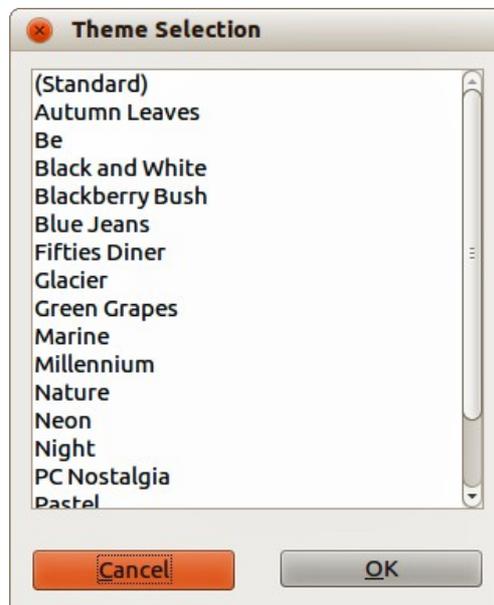
Figure 123: Theme Selection dialog

Using conditional formatting

You can set up cell formats to change depending on conditions that you specify. For example, in a table of numbers, you can show all the values above the average in green and all those below the average in red.

Conditional formatting depends upon the use of styles and the AutoCalculate feature must be enabled. Go to **Tools > Cell Contents > AutoCalculate** on the Menu bar to enable this feature. See the *Calc Guide Chapter 2 Entering, Editing, and Formatting Data* for more information.

Hiding and showing data

In Calc you can hide elements so that they are neither visible on a computer display nor printed when a spreadsheet is printed. However, hidden elements can still be selected for copying if you select the elements around them. For example, if column B is hidden, it is copied when you select columns A and C.

For more information on how to hide and show data, including how to use outline groups and filtering, see the *Calc Guide Chapter 2 Entering, Editing, and Formatting Data*.

Hiding data

To hide sheets, rows, and columns:

1) Select the sheet, row or column you want to hide.

2) Go to **Format** on the Menu bar and select **Sheet**, **Row** or **Column**.

3) Select **Hide** from the menu and the sheet, row or column can no longer viewed or printed.

4) Alternatively, right-click on the sheet tab, row header or column header and select **Hide** from the context menu.

To hide and protect data in selected cells:

1) Go to **Tools > Protect Document** and select **Sheet** from the menu options. The **Protect Sheet** dialog dialog will open (Figure 124).

2) Select *Protect this sheet and the contents of protected cells*.

3) Create a password and then confirm the password.

4) Select or deselect the user selection options for cells.

5) Click **OK**.

6) Select the cells you want to hide.

7) Go to **Format > Cells** on the Menu bar, or right-click and select **Format Cells** from the context menu, or use the keyboard shortcut *Ctrl+1* to open the **Format Cells** dialog.

8) Click the *Cell Protection* tab (Figure 125) and select an option to hide the cells.

9) Click **OK**.
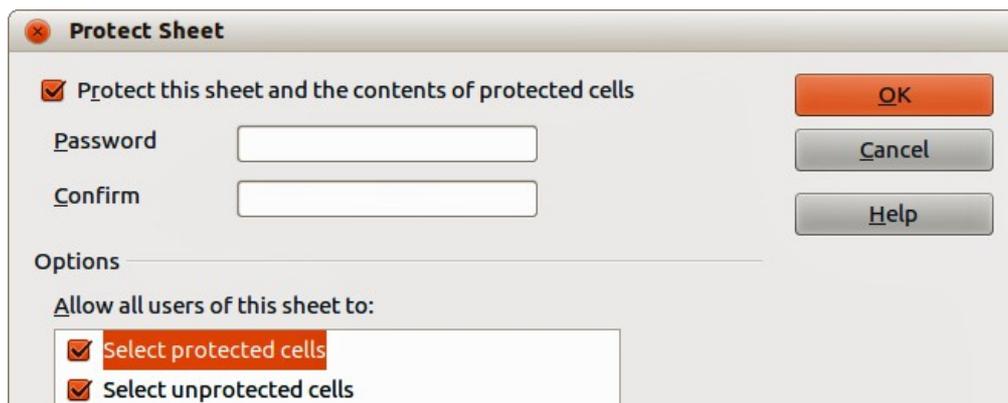
Figure 124: Protect Sheet dialog

🟢 **Note**

When data in cells are hidden, the blank cells remain visible in the spreadsheet.
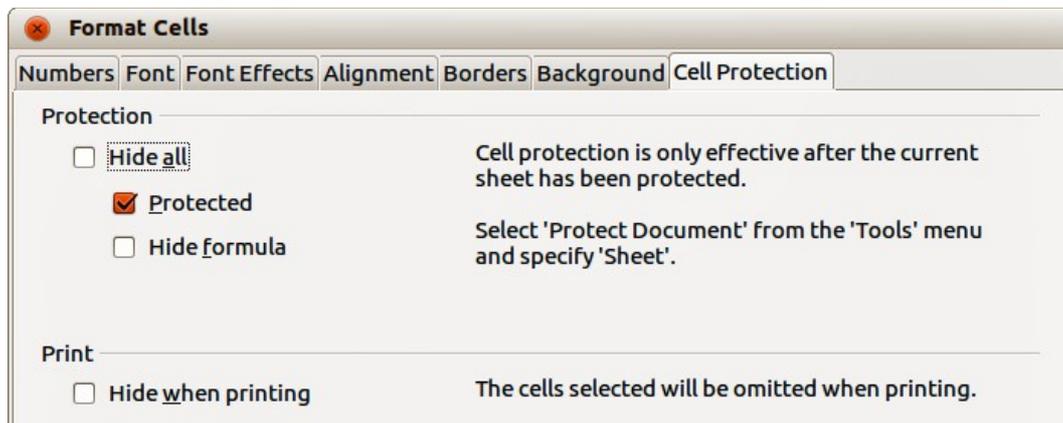
Figure 125: Cell Protection page in Format Cells dialog

Showing data

To show hidden sheets, rows, and columns:

1) Select the sheets, rows or columns each side of the hidden sheet, row or column.

2) Go to **Format** on the Menu bar and select **Sheet**, **Row** or **Column**.

3) Select **Show** from the menu and the sheet, row or column will be displayed and can be printed.

4) Alternatively, right-click on the sheet tabs, row headers or column headers and select **Show** from the context menu.

To show hidden data in cells:

1) Go to **Tools > Protect Document** and select **Sheet** from the menu options.

2) Enter the password to unprotect the sheet and click **OK**.

3) Go to **Format > Cells** on the Menu bar, or right-click and select **Format Cells** from the context menu, or use the keyboard shortcut *Ctrl+1* to open the **Format Cells** dialog.

4) Click the *Cell Protection* tab (Figure 125) and deselect the hide options for the cells.

5) Click **OK**.

Sorting records

Sorting within Calc arranges the cells in a sheet using the sort criteria that you specify. Several criteria can be used and a sort applies each criteria consecutively. Sorts are useful when you are searching for a particular item and become even more useful after you have filtered data.

Also, sorting is useful when you add new information to your spreadsheet. When a spreadsheet is long, it is usually easier to add new information at the bottom of the sheet, rather than adding rows in their correct place. After you have added information, you then carry out a sort to update the spreadsheet.

For more information on how to sort records and the sorting options available, see the *Calc Guide Chapter 2 Entering, Editing, and Formatting Data*.
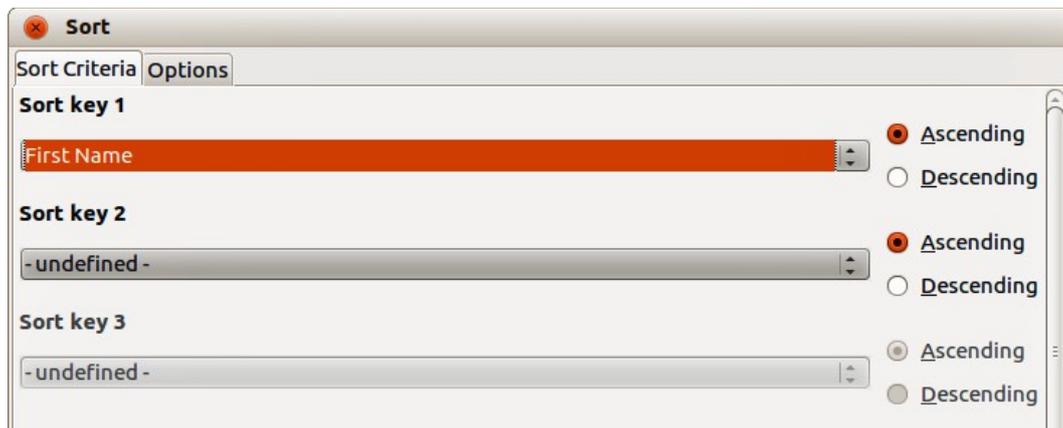
Figure 126: Sort Criteria dialog

To sort cells in your spreadsheet:

1) Select the cells to be sorted.

2) Go to **Data > Sort** on the Menu bar to open the **Sort** dialog (Figure 126).

3) Select the sort criteria from the drop down lists. The selected lists are populated from the selected cells.

4) Select either ascending order (A-Z, 1-9) or descending order (Z-A, 9-1).

5) Click **OK** and the sort is carried out on your spreadsheet.

Using formulas and functions

You may need more than numbers and text on your spreadsheet. Often the contents of one cell depend on the contents of other cells. Formulas are equations that use numbers and variables to produce a result. Variables are placed in cells to hold data required equations.

A function is a predefined calculation entered in a cell to help you analyze or manipulate data. All you have to do is enter the arguments and the calculation is automatically made for you. Functions help you create the formulas required to get the results that you are looking for.

See the *Calc Guide Chapter 7 Using Formulas and Functions* for more information.

Analyzing data

Calc includes several tools to help you analyze the information in your spreadsheets, ranging from features for copying and reusing data, to creating subtotals automatically, to varying information to help you find the answers you need. These tools are divided between the Tools and Data menus.

One of the most useful of these tools is the PivotTable, which is used for combining, comparing, and analyzing large amounts of data easily. Using the PivotTable, you can view different summaries of the source data, display the details of areas of interest, and create reports, whether you are a beginner, an intermediate or advanced user.

See the *Calc Guide Chapter 8 Using Pivot Tables* and *Chapter 9 Data Analysis* for more information on pivot tables and other tools available in Calc to analyze your data.

Printing

Printing from Calc is much the same as printing from other LibreOffice components (see *Chapter 10 Printing, Exporting, and Emailing* in this guide). However, some details for printing in Calc are different, especially regarding preparation for printing.

Print ranges

Print ranges have several uses, including printing only a specific part of the data or printing selected rows or columns on every page. For more information about using print ranges, see the *Calc Guide Chapter 6 Printing, Exporting, and E-mailing*.

Defining a print range

To define a new print range or modify an existing print range:

1) Select the range of cells to be included in the print range.

2) Go to **Format > Print Ranges > Define** on the Menu bar**. P**age break lines are displayed on screen.

3) To check the print range, go to **File > Page Preview** on the Menu bar or click on the **Page Preview** icon . LibreOffice will display the cells in the print range.

Adding to a print range

After defining a print range, you can add more cells to it by creating another print range. This allows multiple, separate areas of the same sheet to be printed while not printing the whole sheet.

1) After defining a print range, select an extra range of cells for adding to the print range.

2) Go to **Format > Print Ranges > Add** on the Menu bar to add the extra cells to the print range. The page break lines are no longer displayed on the screen.

3) To check the print ranges, go to **File > Page Preview** on the Menu bar or click on the **Page Preview** icon . LibreOffice will display the print ranges as separate pages.

> **Note**
>
> The additional print range will print as a separate page, even if both ranges are on the same sheet.

Removing a print range

It may become necessary to remove a defined print range, for example, if the whole sheet needs to be printed later.

To remove all the defined print ranges, go to **Format > Print Ranges > Remove on the Menu bar.** After the print ranges have been removed, the default page break lines will appear on the screen.

Editing a print range

At any time, you can directly edit the print range, for example to remove or resize part of the print range. Go to **Format > Print Ranges > Edit** on the Menu bar to open the **Edit Print Ranges** dialog where you can define the print range.

Printing options

To select the printing options for page order, details, and scale to be used when printing a spreadsheet:

1) Go to **Format > Page** on the Menu bar to open the **Page Style** dialog (Figure 127).

2) Select the **Sheet** tab and make your selections from the available options.

3) Click **OK.**

For more information on printing options, see the *Calc Guide Chapter 6 Printing, Exporting, and E-mailing*.

Repeat printing of rows or columns

If a sheet is printed on multiple pages, you can set up certain rows or columns to repeat on each printed page. For example, if the top two rows of the sheet as well as column A need to be printed on all pages, do the following:

1) Go to **Format > Print Ranges > Edit on t**he Menu bar to open the **Edit Print Ranges** dialog (Figure 128).

2) Type the row identifiers in the *Rows to repeat* box. For example, to repeat rows 1 and 2, type **$1:$2**. This automatically changes *Rows to repeat* from, **- none -** to **- user defined -**.
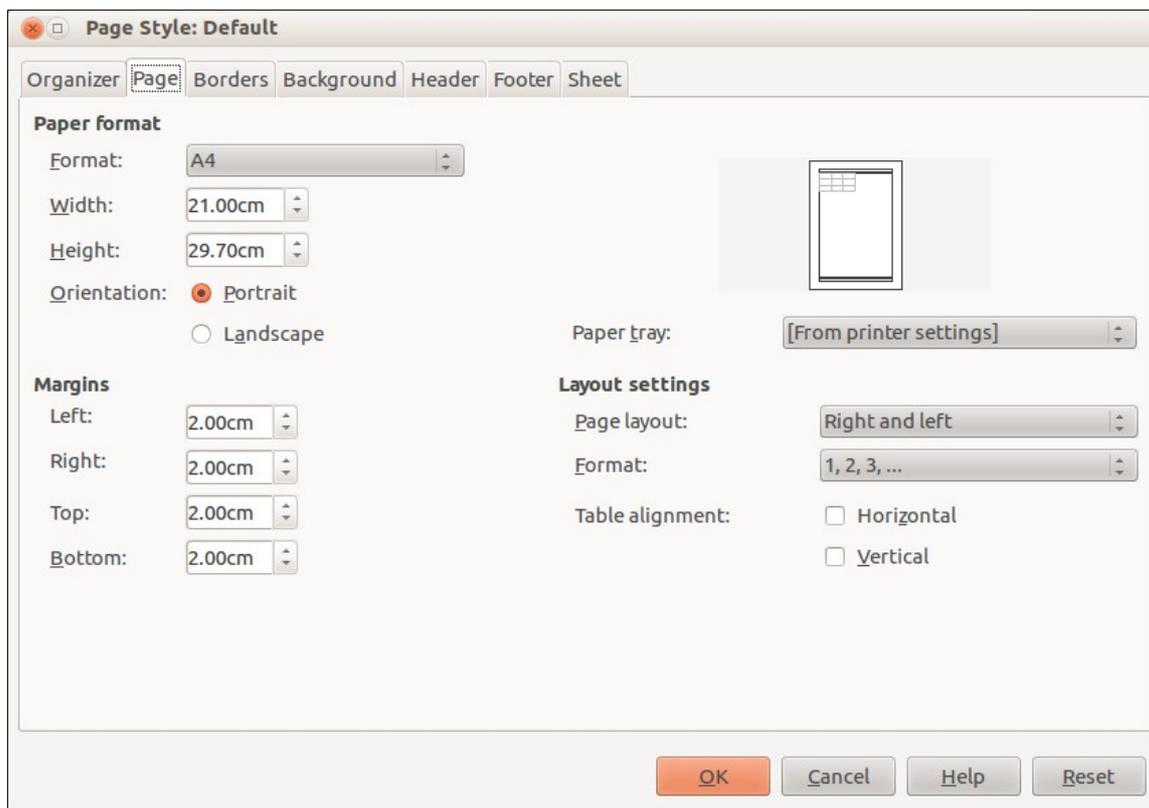
Figure 127: Page Style dialog

3) Type the column identifiers in the *Columns to repeat* box. For example, to repeat column A, type **$A**. In the *Columns to repeat* list, - **none** - changes to - **user defined** -.

4) Click **OK**.

For more information on editing print ranges, see the *Calc Guide*, Chapter 6 Printing, Exporting, and E-mailing.
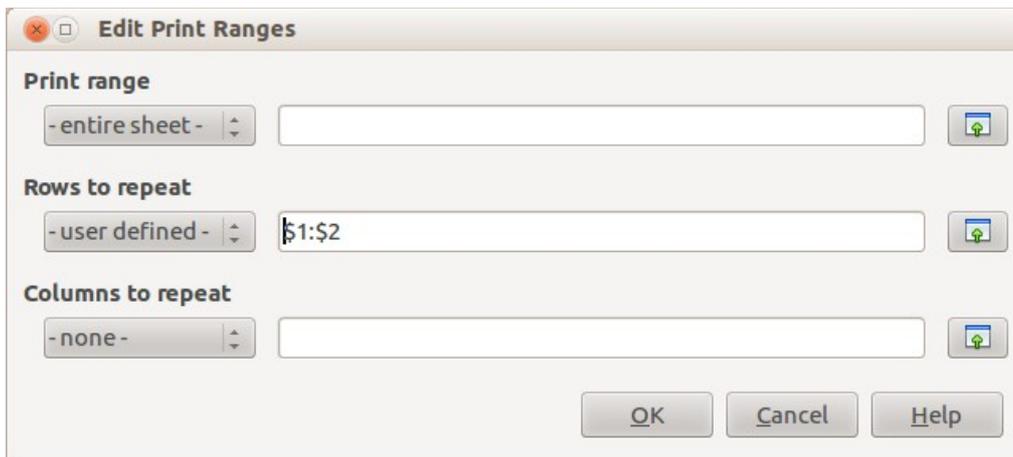
Figure 128: Edit Print Ranges dialog

Page breaks

While defining a print range can be a powerful tool, it may sometimes be necessary to manually adjust the Calc printout manually using a *manual or page break*. A page break helps to ensure that your data prints properly according to your page size and page orientation. You can insert a horizontal page break above or a vertical page break to the left of the active cell.

For more information on manual breaks, see the *Calc Guide Chapter 6 Printing, Exporting, and E-mailing*.

Inserting a break

To insert a page break:

1) Navigate to the cell where the page break will begin.

2) Go to **Insert > Page Break** on the Menu bar.

3) Select **Row Break** to create a page break above the selected cell.

4) Select **Column Break** to create a page break to the left of the selected cell.

Deleting a page break

To remove a page break:

1) Navigate to a cell that is next to the break you want to remove.

2) Go to **Edit > Delete Page Break** on the Menu bar.

3) Select **Row Break** or **Column Break** depending on your need and break is removed.

Note

Multiple manual row and column breaks can exist on the same page. When you want to remove them, you have to remove each break individually.

Headers and footers

Headers and footers are predefined pieces of text that are printed at the top or bottom of a page when a spreadsheet is printed. Headers and footers are set and defined using the same method. For more information on setting and defining headers and footers, see the *Calc Guide Chapter 6 Printing, Exporting, and E-mailing*.

Headers and footers are also assigned to a page style. You can define more than one page style for a spreadsheet and assign different page styles to different sheets within a spreadsheet. For more information on page styles, see the *Calc Guide Chapter 4 Using Styles and Templates*.

Setting a header or footer

To set a header or footer:

1) Navigate to the sheet that you want to set the header or footer for.

2) Go to **Format > Page** on the Menu bar to open the **Page Style** dialog (Figure 129).

3) On the Page Style dialog, select **Header** or **Footer** tab.

4) Select the **Header on** or **Footer on** option.

5) Select **Same content left/right** option if you want the same header or footer to appear on all the printed pages.

6) Set the margins, spacing, and height for the header or footer. You can also select **AutoFit height** box to automatically adjust the height of the header or footer.

7) To change the appearance of the header or footer, click on **More** to open the borders and background dialog.

8) To set the contents, for example page number, date and so on, that appears in the header or footer, click on **Edit** to open the style dialog.
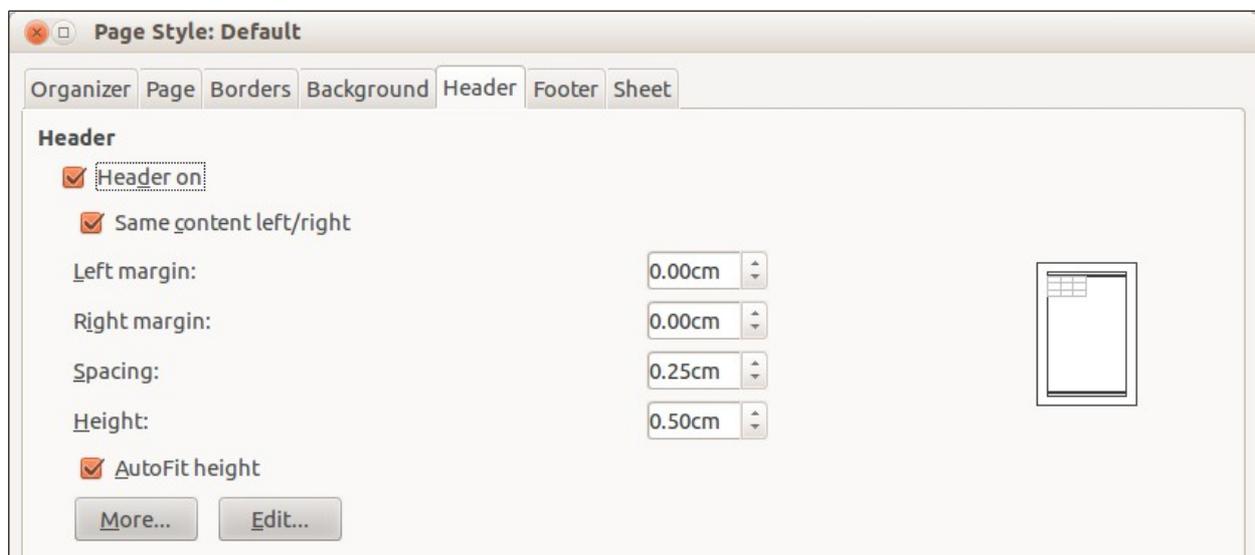
Figure 129: Header page of Page Style dialog

Chapter 6
Getting Started with Impress

Presentations in LibreOffice

What is Impress?

Impress is the presentation (slide show) program included in LibreOffice. You can create slides that contain many different elements, including text, bulleted and numbered lists, tables, charts, and a wide range of graphic objects such as clipart, drawings, and photographs. Impress also includes a spelling checker, a thesaurus, text styles, and background styles.

This chapter includes instructions, screenshots, and hints to guide you through the Impress environment while designing your presentations. Although more difficult designs are mentioned in this chapter, explanations for creating them are in the *Impress Guide*. If you have a working knowledge of how to create slide shows, we recommend you use the *Impress Guide* for your source of information.

To use Impress for more than very simple slide shows requires some knowledge of the elements which the slides contain. Slides containing text use styles to determine the appearance of that text. Creating drawings in Impress is similar to the Draw program included in LibreOffice. For this reason, we recommend that you also see *Chapter 3 Using Styles and Templates* and *Chapter 7 Getting Started with Draw* in this guide. You may also wish to consult the *Draw Guide* for more details on how to use the drawing tools.

Starting Impress

You can start Impress in several ways, as described in *Chapter 1 Introducing LibreOffice*.

When you start Impress for the first time, the Presentation Wizard may be shown. See "Creating a new presentation using the Presentation Wizard" on page 164. Otherwise, the main Impress window is displayed.

You can turn the Presentation Wizard on and off in **Tools > Options > LibreOffice Impress > General > New document** by selecting or deselecting the **Start with wizard** option.

Main Impress window

The main Impress window (Figure 130) has three parts: the *Slides pane*, *Workspace*, and *Sidebar*. Additionally, several toolbars can be displayed or hidden during the creation of a presentation.

> **Tip**
>
> You can close the *Slides pane* or the *Sidebar* by clicking the *X* in the upper right corner of each pane or go to **View > Slide Pane** or **View > Sidebar** on the Menu bar to deselect the pane. To reopen a pane, go to **View** on the Menu bar and select **Slide Pane** or **Sidebar** again.
>
> You can also maximize the *Workspace* area by clicking on the Hide/Show marker in the middle of the vertical separator line (highlighted in Figure 130). Using the Hide/Show marker hides, but does not close, the Slide pane or Sidebar. To restore a pane, click again on its Hide/Show marker.

Workspace

The *Workspace* (normally in the center of the main window) has five tabs: **Normal**, **Outline**, **Notes**, **Handout**, and **Slide Sorter**. These five tabs are called View buttons. The Workspace below the View buttons changes depending on the chosen view. The workspace views are described in "Workspace views" on page 160.
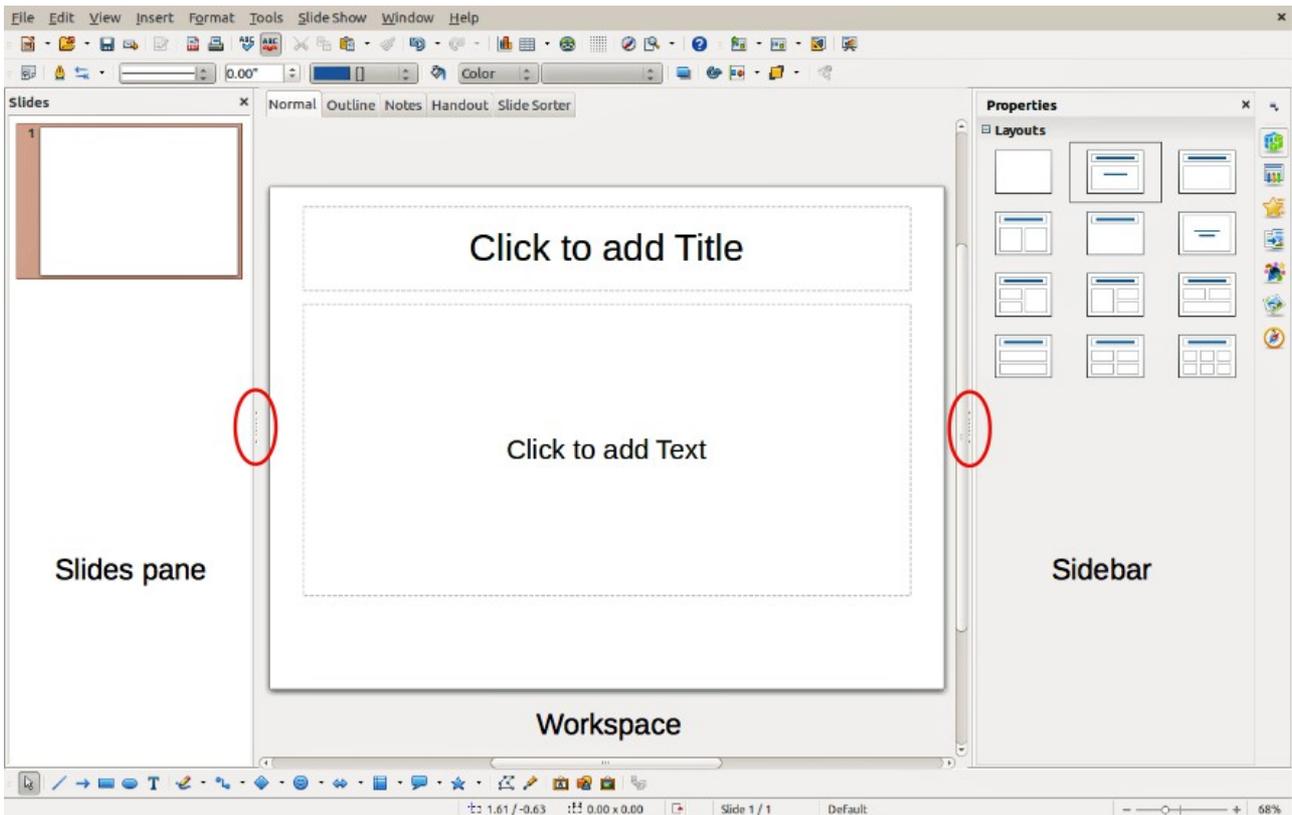
Figure 130: Main window of Impress; ovals indicate the Hide/Show markers

Slides pane

The *Slides pane* contains thumbnail pictures of the slides in your presentation in the order in which they will be shown, unless you change the slide show order. Clicking a slide in this pane selects it and places it in the *Workspace*. When a slide is in the Workspace, you can make changes to it.

Several additional operations can be performed on one or more slides simultaneously in the Slides pane:

- Add new slides to the presentation.
- Mark a slide as hidden so that it will not be shown as part of the presentation.
- Delete a slide from the presentation if it is no longer needed.
- Rename a slide.
- Duplicate a slide (copy and paste).

It is also possible to perform the following operations, although there are more efficient methods than using the Slides pane:

- Change the slide transition following the selected slide or after each slide in a group of slides.
- Change the slide design.
- Change slide layout for a group of slides simultaneously.

Sidebar

The *Sidebar* has seven sections. To expand a section you want to use, click on its icon or click on the small triangle at the top of the icons and select a section from the drop down list. Only one section at a time can be open.

Properties

Shows the layouts included within Impress. You can choose the one you want and use it as it is, or modify it to meet your own requirements. However, it is not possible to save customized layouts.

Master Pages

Here you define the page (slide) style for your presentation. Impress includes several designs of Master Pages (slide masters). One of them – Default – is blank, and the rest have background and styled text.

> **Tip**
>
> Go to **Format > Styles and Formatting** on the Menu bar or press the *F11* key to open the Styles and Formatting dialog, where you can modify the styles used in any master page to suit your purpose. This can be done at any time.

Custom Animation

A variety of animations can be used to emphasize or enhance different elements of each slide. The Custom Animation section provides an easy way to add, change, or remove animations.

Slide Transition

Provides a number of slide transition options. The default is set to *No Transition*, in which the following slide simply replaces the existing one. However, many additional transitions are available. You can also specify the transition speed (slow, medium, fast), choose between an automatic or manual transition, and choose how long the selected slide should be shown (automatic transition only).

Styles and Formatting

Here you can edit and apply graphics styles and create new ones, but you can only edit existing presentation styles. When you edit a style, the changes are automatically applied to all of the elements formatted with this style in your presentation. If you want to ensure that the styles on a specific slide are not updated, create a new master page for the slide.

Gallery

Opens the Impress gallery where you can insert an object into your presentation either as a copy or as a link. A copy of an object is independent of the original object. Changes to the original object have no effect on the copy. A link remains dependent on the original object. Changes to the original object are also reflected in the link.

Navigator

Opens the Impress navigator, in which you can quickly move to another slide or select an object on a slide. It is recommended to give slides and objects in your presentation meaningful names so that you can easily identify them when using the navigator.

Toolbars

Many toolbars can be used during slide creation. They can be displayed or hidden by going to **View > Toolbars** on the Menu bar and selecting from the context menu.

You can also select the icons that you wish to appear on each toolbar. For more information, refer to *Chapter 1 Introducing LibreOffice*.

Many of the toolbars in Impress are similar to the toolbars in Draw. Refer to the *Draw Guide* for details on the functions available and how to use them.

Status bar

The *Status bar* (Figure 131), located at the bottom of the Impress window, contains information that you may find useful when working on a presentation. For details on the contents and use of these fields, see *Chapter 1 Introducing LibreOffice* in this guide and the *Impress Guide Chapter 1 Introducing Impress*.
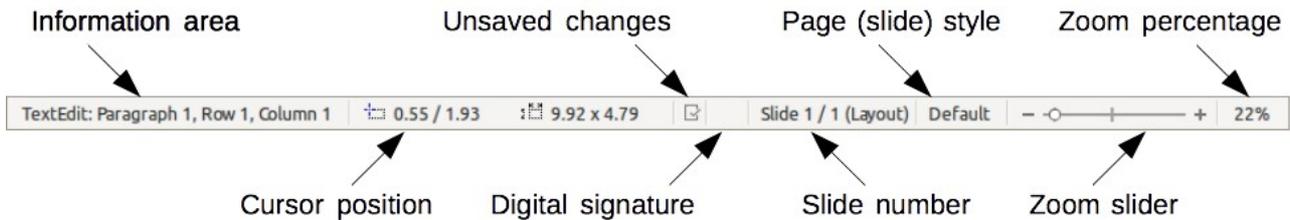
Figure 131: Status bar

🟢 **Note**

The sizes are given in the current measurement unit (not to be confused with the ruler units). This measurement unit is defined in **Tools > Options > LibreOffice Impress > General**.

From left to right, you will find:

- **Information area** – changes depending on the selection. For example:

Example selection	Examples of information shown
Text area	Text Edit: Paragraph x, Row y, Column z
Charts, spreadsheets	Embedded object (OLE) "ObjectName" selected
Graphics	Bitmap with transparency selected

- **Cursor position** – the position of the cursor or of the top left corner of the selection measured from the top left corner of the slide, followed by the width and height of the selection or text box where the cursor is located.

- **Unsaved changes** – a flag indicating that the file needs saving. Double-clicking on this flag opens the file save dialog.

- **Digital signature** – a flag indicating whether the document is digitally signed. After the file has been saved, double-clicking on this flag opens the digital signatures dialog.

- **Slide number** – the slide number currently displayed in the Workspace and the total number of slides in the presentation.

- **Page (slide) style** – the style associated with the slide, handout, or notes page currently in the Workspace. Double-clicking on the style name opens the slide design dialog.

- **Zoom slider** – adjusts the zoom percentage of the Workspace displayed.

- **Zoom percentage** – indicates the zoom percentage of the Workspace displayed. Double-clicking on zoom percentage opens the zoom and layout dialog.

You can hide the Status Bar and its information by going to **View** on the Menu bar and deselecting **Status Bar**.

Workspace views

Each of the workspace views is designed to ease the completion of certain tasks. It is therefore useful to familiarize yourself with them in order to accomplish those tasks quickly.

🟢 **Note**

> Each Workspace view displays a different set of toolbars when selected. These toolbar sets can be customized by going to **View > Toolbars** on the Menu bar, then check or uncheck the toolbar you want to add or remove.

Normal view

Normal view is the main view for working with individual slides. Use this view to format and design and to add text, graphics, and animation effects.

To place a slide in the slide design area (Normal view) (Figure 130 on page 157), click the slide thumbnail in the Slides pane or double-click it in the Navigator (see *Chapter 1 Introducing LibreOffice* and the *Impress Guide* for more information on the Navigator).

Outline view

Outline view (Figure 132) contains all the slides of the presentation in their numbered sequence. It shows topic titles, bulleted lists, and numbered lists for each slide in outline format. Only the text contained in the default text boxes in each slide is shown, so if your slide includes other text boxes or drawing objects, the text in these objects is not displayed. Slide names are not included either.
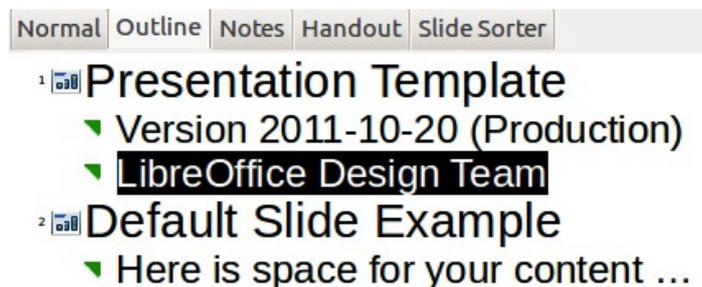
Figure 132: Outline view

Figure 133: Outline level and movement arrows in Text Formatting toolbar

Use Outline view for the following purposes:

- Making changes in the text of a slide:
    - Add and delete the text in a slide just as in the Normal view.
    - Move the paragraphs of text in the selected slide up or down by using the up and down arrow buttons (Move Up or Move Down) on the Text Formatting toolbar (highlighted in Figure 133).
    - Change the outline level for any of the paragraphs in a slide using the left and right arrow buttons (Promote or Demote) on the Text Formatting toolbar.
    - Move a paragraph and change its outline level at the same time using a combination of these four arrow buttons.

- Compare slides with your outline (if you have prepared one in advance). If you notice from your outline that another slide is needed, you can create it directly in the Outline view or you can return to the Normal view to create it.

Notes view

Use the *Notes view* (Figure 134) to add notes to a slide. These notes are for your information and are not seen by the audience when the presentation is shown.
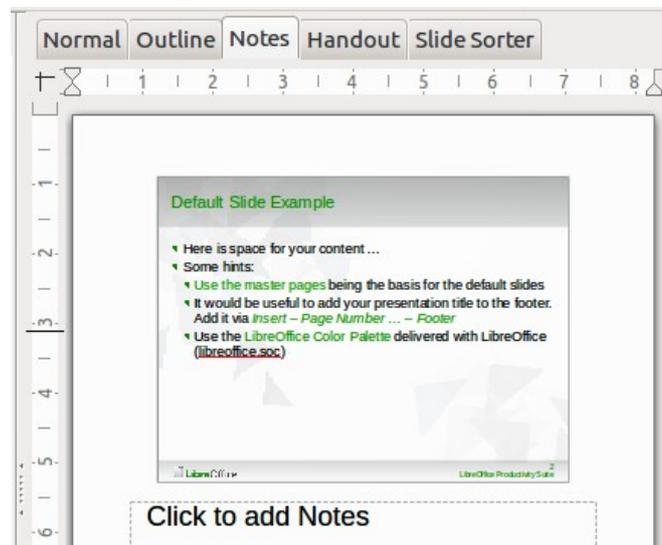
Figure 134: Notes view

1) Click the **Notes** tab in the Workspace.
2) Select the slide to which you want to add notes: click the slide in the Slides pane, or double-click the slide name in the Navigator.
3) In the text box below the slide, click on the words *Click to add notes* and begin typing.

You can resize the Notes text box using the colored resizing handles which appear when you click on the edge of the box. You can also move the box by placing the pointer on the border, then clicking and dragging. To make changes in the text style, click on the Styles and Formatting icon

 on the Sidebar.

Handout view

Handout view is for setting up the layout of your slide for a printed handout. Click the *Handout* tab in the workspace and the **Layouts** section opens on the Sidebar (Figure 135). Here you can choose to print 1, 2, 3, 4, 6, or 9 slides per page. If the Layouts section does not open, then click on the Properties icon at the side of the Sidebar.

Use this view also to customize the information printed on the handout. Refer to the *Impress Guide Chapter 10 Printing, E-mailing, Exporting, and Saving Slide Shows* for instructions on printing slides, handouts, and notes.

Go to **Insert > Page Number, Insert > Date and Time,** or **Insert > Header and Footer** on the Menu bar and the Header and Footer dialog opens. Click on the *Notes and Handouts* tab (Figure 136) and select the elements you want to appear on each handout page and their contents. More details on how to use this dialog are provided in the *Impress Guide*.
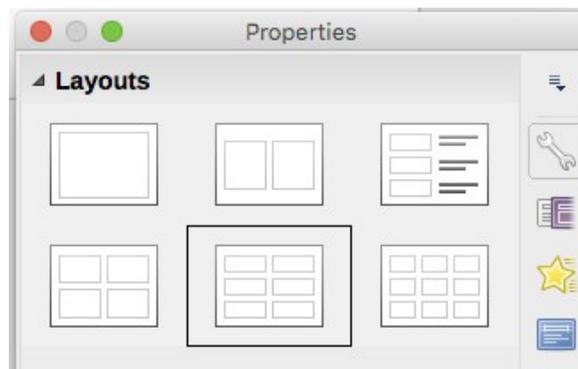
Figure 135: Handout layouts
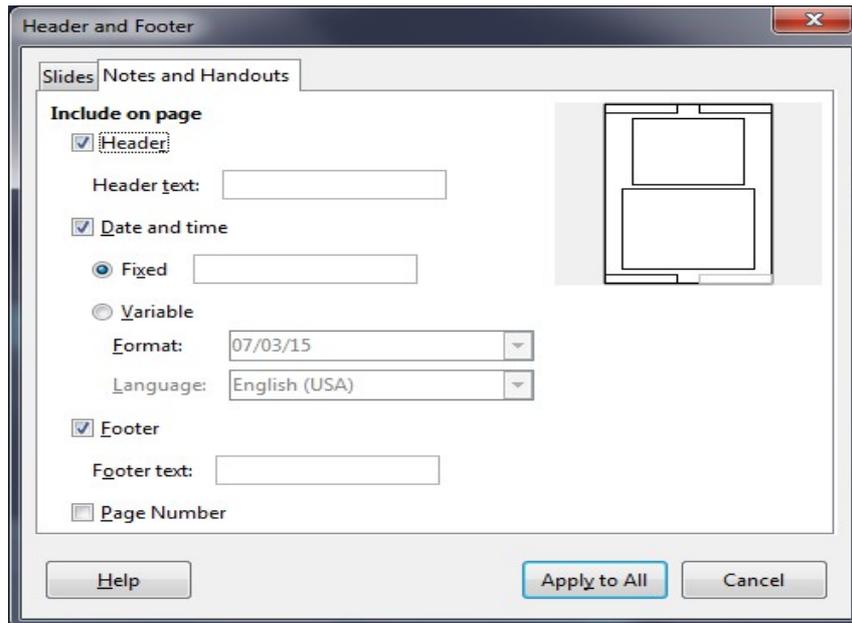
Figure 136: Header and Footer dialog – Notes and Handouts page

Slide Sorter view

Slide Sorter view (Figure 137) contains all of the slide thumbnails. Use this view to work with a group of slides or with only one slide.
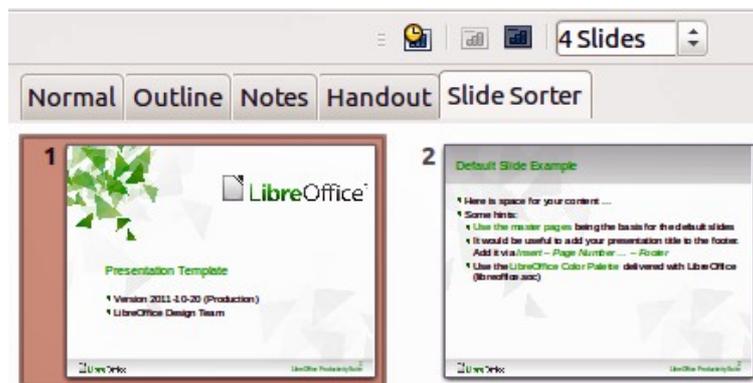
Figure 137: Slide Sorter view

Customizing Slide Sorter view

To change the number of slides per row:

1) Go to **View > Toolbars** and select **Slide Sorter** and **Slide View** to show or hide the Slide Sorter and Slide View toolbars (Figure 138).

2) Adjust the number of slides (up to a maximum of 15).

Figure 138: Slide Sorter and Slide View toolbars

Moving a slide using Slide Sorter

To move a slide in a presentation in the Slide Sorter:

1) Click the slide and the slide is highlighted (Figure 137).

2) Drag and drop the slide to the location you want.

Selecting and moving groups of slides

To select a group of slides, use one of these methods:

• Using the *Ctrl* key – click on the first slide and, while pressing the *Ctrl* key, select the other desired slides.

• Using the *Shift* key – click on the first slide, and while pressing the *Shift* key, select the final slide in the group. This selects all of the other slides between the first and the last slide selected.

• Using the mouse – click slightly to one side (left or right) of the first slide to be selected. Hold down the left mouse button and drag the cursor until all of the slides you want selected are highlighted.

To move a group of slides, select them and then drag and drop the group to their new location.

Working in Slide Sorter view

You can work with slides in the Slide Sorter view just as you can in the Slide pane. To make changes, right-click a slide and choose any of the following from the context menu:

• **New Slide** – adds a new slide after the selected slide (see "New slide" on page 167).

• **Duplicate Slide** – creates a duplicate of the selected slide and places the new slide immediately after the selected slide (see "Duplicate slide" on page 167).

• **Delete Slide** – deletes the selected slide.

• **Rename Slide** – allows you to rename the selected slide.

• **Slide Layout** – allows you to change the layout of the selected slide.

• **Slide Transition** – allows you to change the transition of the selected slide.

  – For one slide, select a slide and add the desired transition.

  – For more than one slide, select a group of slides and add the desired transition.

• **Hide Slide** – any slides that are hidden are not shown in the slide show.

• **Cut** – removes the selected slide and saves it to the clipboard.

• **Copy** – copies the selected slide to the clipboard without removing it.

• **Paste** – inserts a slide from the clipboard after the selected slide.

Creating a new presentation using the Presentation Wizard

This section describes how to start a new presentation using the Presentation Wizard.

> ▶ **Tip**
>
> The first thing to do is decide on the purpose of the presentation and set out a plan. Although you can make changes as you go, you will save a lot of time by having an initial idea of who the audience will be, the structure, the content, and how the presentation will be delivered.

When you start Impress, the Presentation Wizard may appear (Figure 139).

1) In step 1, under **Type**, choose one of the options. These options are covered in the I*mpress Guide*.

   – *Empty presentation* creates a blank presentation.

   – *From template* uses a template design already created as the basis for a new presentation. The wizard changes to show a list of available templates. Choose the template you want.

   – *Open existing presentation* continues work on a previously created presentation. The wizard changes to show a list of existing presentations. Choose the presentation you want.
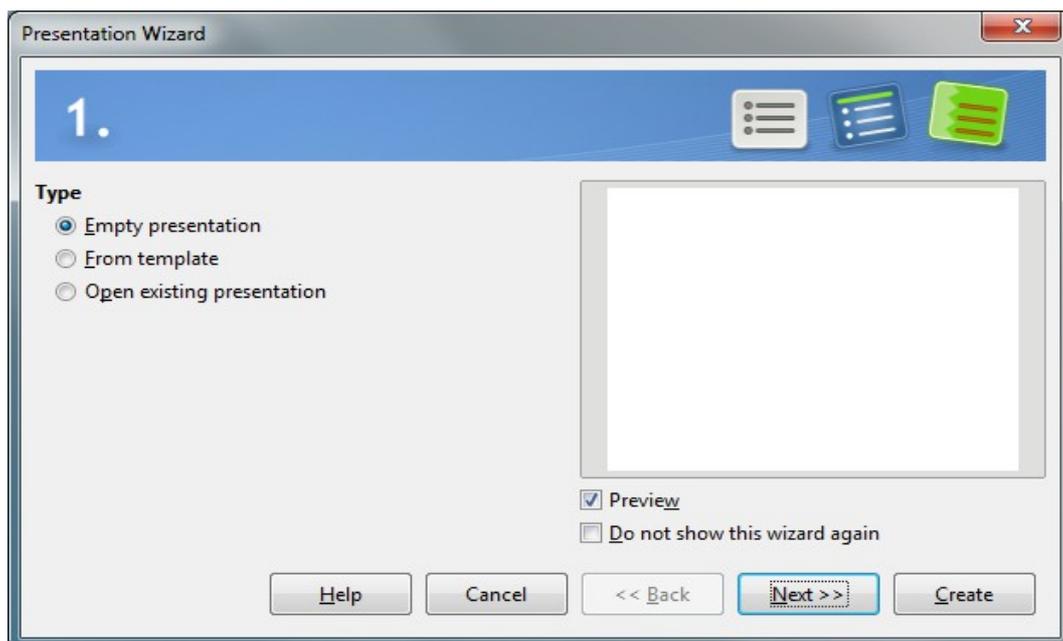
Figure 139: Choosing the type of presentation

2) Click **Next**. Figure 140 shows the **Presentation** Wizard step 2 as it appears if you selected Empty Presentation at step 1. If you selected *From template*, an example slide is shown in the Preview box.

3) Choose a design under **Select a slide design**. The slide design section gives you two main choices: *Presentation Backgrounds* and *Presentations*. Each one has a list of choices for slide designs. If you want to use one of these other than <Original>, click it to select it.

   – The types of Presentation Backgrounds are shown in Figure 140. When you select a presentation background, you will see a preview of the slide design in the Preview window.

   – <Original> is for a blank presentation slide design.
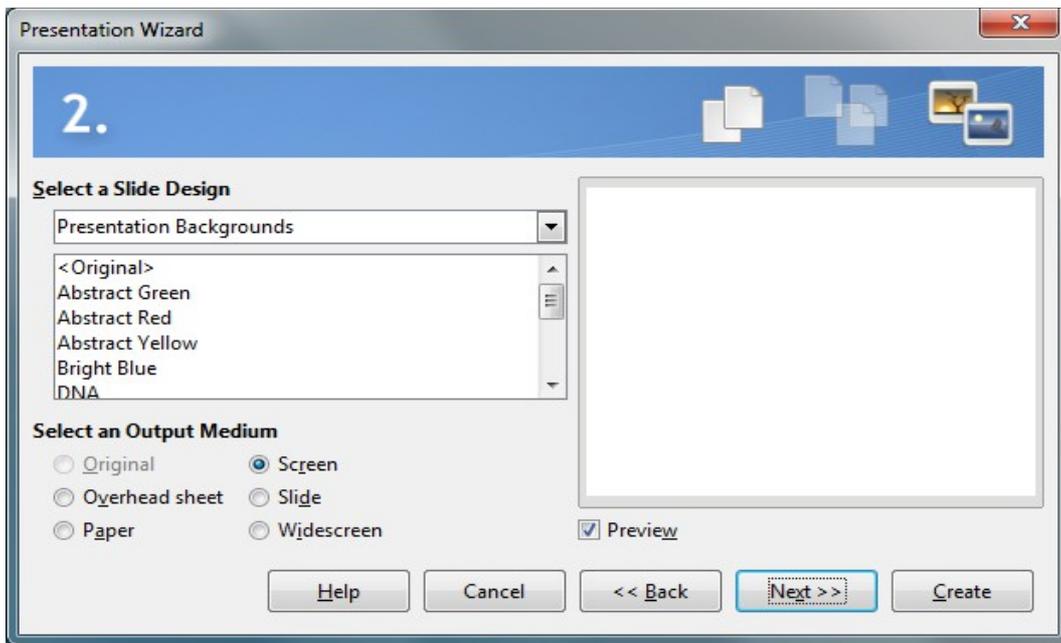
Figure 140: Selecting a slide design

4) Select how the presentation will be used under **Select an output medium**. The majority of presentations are created for computer screen display so it is recommended to select *Screen*. You can change the page format at any time.

🟢 **Note**

The Screen page is set by default for a 4:3 display (28cm x 21cm) so it is not suitable for modern widescreen displays. Use the Widescreen option instead. You can also change the slide size and proportions at any time by switching to Normal view and selecting **Format > Page**.

5) Click **Next** and step 3 of the **Presentation** Wizard appears (Figure 141).
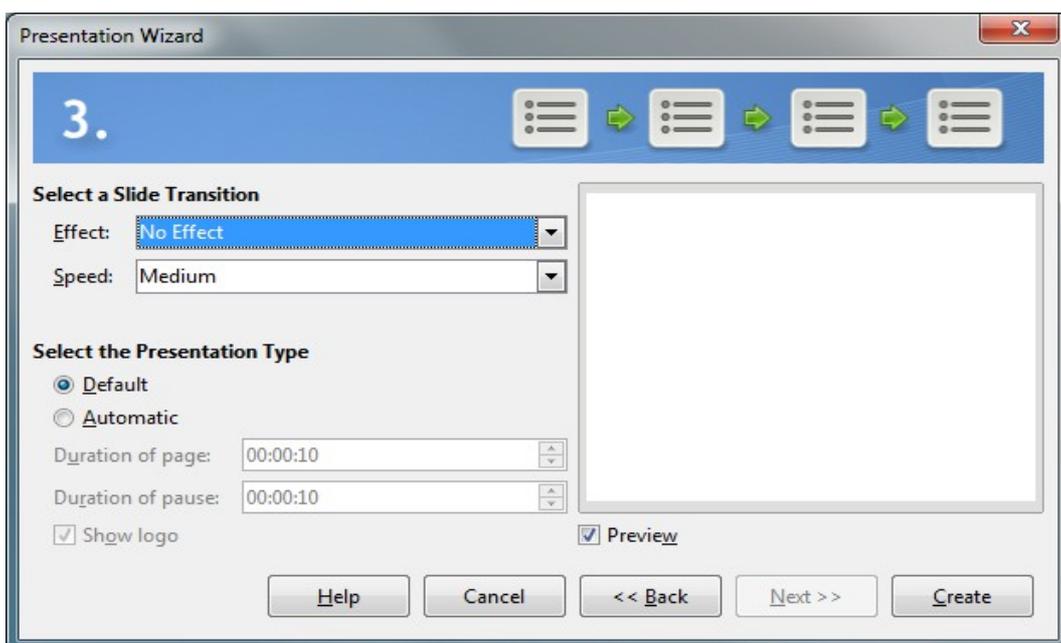
Figure 141: Selecting a slide transition effect

- Choose the desired slide transition from the *Effect* drop-down menu.

- Select the desired s**peed** for the transition between the different slides in the presentation from the **Speed** drop-down menu. *Medium* is a good choice for now.

- Select the presentation type. For most purposes, choose Default; you can change this later. For details on the choices under Automatic, see the *Impress Guide*.

Note

If you did not select a template in step 1 of the Presentation Wizard, then steps 4 and 5 in the Presentation Wizard will not appear after step 3. Click **Create** and your new presentation is created.

6) Click **Next**. In step 4 of the Presentation Wizard appears, you can enter information about your company and the presentation you are creating.

Figure 142: Entering information about your presentation

7) Click **Next**. In step 5, the Presentation Wizard shows a preview of what your presentation will look like (Figure 143). If the preview does not appear, select *Preview*.

8) If you want to create a summary of your presentation, select *Create summary*.

9) Click **Create** and your new presentation is created.

Tip

You can accept the default values for both *Effect* and *Speed* unless you are skilled at creating presentations. Both of these values can be changed later while working with slide transitions and animations. These two features are explained in more detail in the *Impress Guide Chapter 9 Slide Shows*.
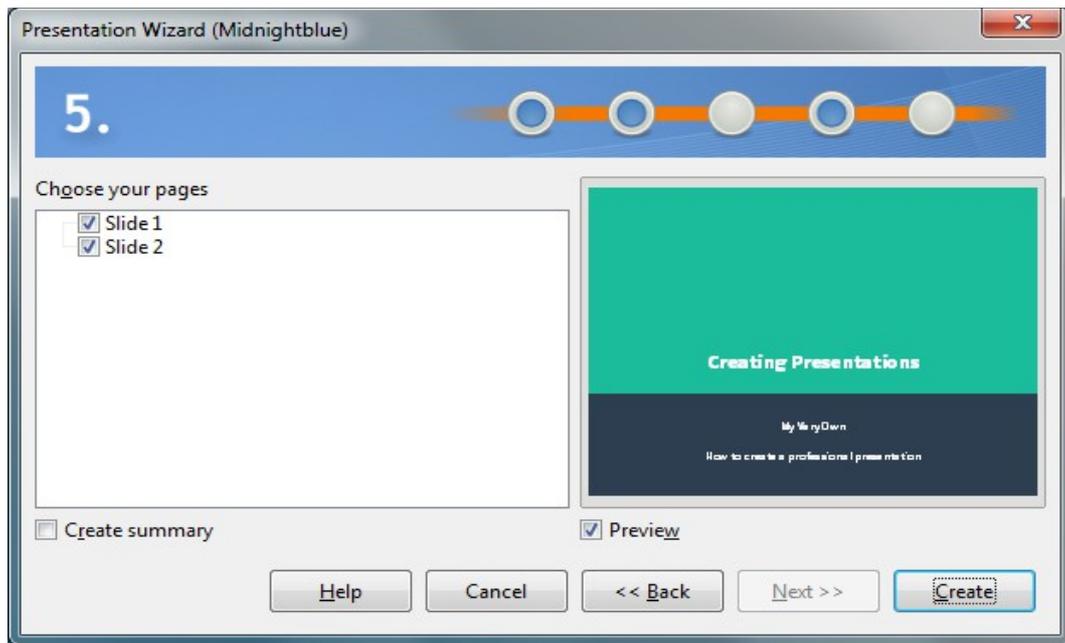
Figure 143: Presentation preview

Formatting a presentation

A new presentation contains only one empty slide. In this section we will start adding new slides and preparing them for the intended contents.

Inserting slides

New slide

A new slide can be inserted into a presentation as follows:

1) Go to **Insert** on the Menu bar and select **Slide**.

   Or, right-click on a slide in the Slides Pane or Slide Sorter view and select **New Slide** from the context menu.

   Or, right-click in an empty space in the Workspace and select **Slide > New Slide** from the context menu.

   Or click the **Slide** icon ⬚ in the Presentation toolbar. If the Presentation toolbar is not visible, go to **View > Toolbars** on the Menu bar and select **Presentation** from the list.

2) A new slide is inserted after the selected slide in the presentation.

Duplicate slide

Sometimes, rather than starting from a new slide you may want to duplicate a slide already included in your presentation. To duplicate a slide:

1) Select the slide you want to duplicate from the Slides Pane.

2) Go to **Insert** on the Menu bar and select **Duplicate Slide**.

   Or, right-click on the slide in the Slides Pane or Slide Sorter view and select **Duplicate Slide** from the context menu.

   Or, right-click on a slide in the Workspace and select **Slide > Duplicate Slide** from the context menu.

Or, click on the triangle to the right of the **Slide** icon ![icon] in the Presentation toolbar and select **Duplicate Slide** from the context menu. If the Presentation toolbar is not visible, go to **View > Toolbars** on the Menu bar and select **Presentation** from the list.

3) A duplicate slide is inserted after the selected slide in the presentation.

Selecting slide layout

When creating a presentation, the first slide is normally a title slide. You can use either a blank layout or one of the title layouts as your title slide.

Click on the Properties icon ![icon] at the side of the Sidebar to open **Layouts** section and display the available layouts (Figure 144). The layouts included in LibreOffice range from a blank slide to a slide with six contents boxes and a title.
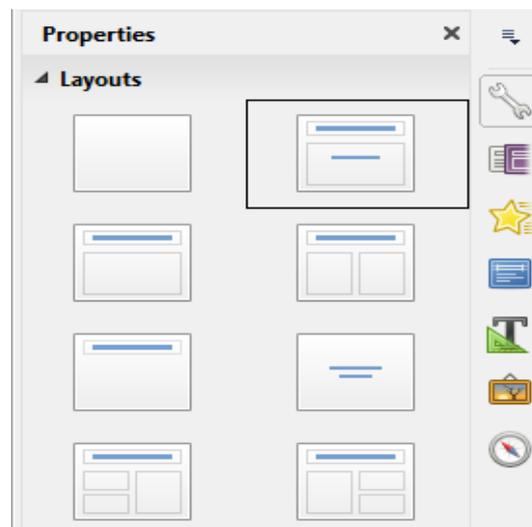
Figure 144: Available slide layouts

To create a title, if one of the title layouts has been selected, click on *Click to add title* and then type the title text. To add text content, depending on the slide layout selected, click on *Click to add text*. To adjust the formatting of the title, subtitle or content modify the presentation style; see the *Impress Guide Chapter 2 Using Slide Masters, Styles, and Templates* for more information.

![Note icon] **Note**

Text and graphic elements can be readjusted at any time during the preparation of the presentation, but changing the layout of a slide that already contains some contents can have an effect on the content format. Therefore, it is recommended that you pay particular attention to the layout you select to prevent any loss of content.

![Tip icon] **Tip**

To view the names for the included layouts, use the Tooltip feature: position the cursor on an icon in the Layout section (or on any toolbar icon) and its name will be displayed in a small rectangle.

If tooltips are not enabled, choose **Tools > Options > LibreOffice > General > Help** and select the **Tips** option. If the **Extended tips** option is also selected, you will get more detailed tooltip information, but the tooltip names themselves will not be provided.

To select or change the layout of a slide, select the slide in the Slides Pane so that it appears in the Workspace and select the desired layout from the Layouts section in the Sidebar. Several layouts contain one or more content boxes. Each of these content boxes can be configured to contain text, movies, images, charts or tables.

You can choose the type of contents by clicking on the corresponding icon that is displayed in the middle of the contents box as shown in Figure 145. If you intend to use the contents box for text, click on *Click to add text*.
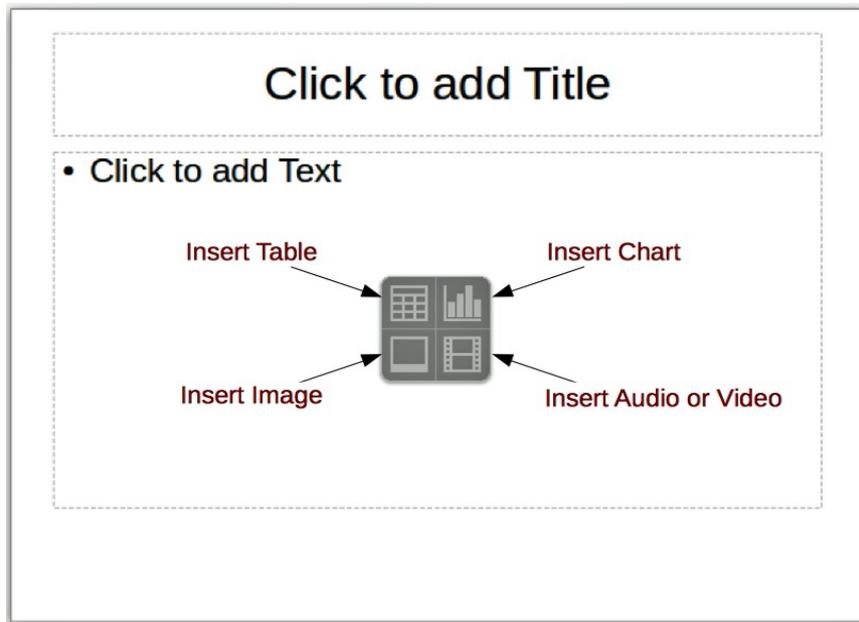
Figure 145: Selecting contents type

Modifying slide elements

A slide contains elements that were included in the slide master, as well as those elements included in the selected slide layout. However, it is unlikely that the predefined layouts will suit all your needs for your presentation. You may want to remove elements that are not required or insert objects such as text and graphics.

Although Impress does not have the functionality to create new layouts, it allows you to resize and move the layout elements. It is also possible to add elements without being limited to the size and position of the layout boxes.

To resize a contents box, click on the outer frame so that the resizing handles are displayed. To move it, place the mouse cursor on the frame so that the cursor changes shape. You can now click and drag the contents box to a new position on the slide.

To remove any unwanted element:

1) Click the element to highlight it. The resizing handles show it is selected.
2) Press the *Delete* key to remove it.

![Note icon] **Note**

Changes to any of the layouts included in Impress can only be made using **View > Normal**, which is the default. Attempting any changes by modifying a slide master, although possible, may result in unpredictable results and requires extra care as well as a certain amount of trial and error.

Adding text

To add text to a slide that contains a text frame, click on *Click to add text* in the text frame and then type your text. The Outline styles are automatically applied to the text as you insert it. You can change the outline level of each paragraph as well as its position within the text by using the arrow buttons on the *Text Formatting* toolbar (see Figure 133 and "Outline view" on page 160). For more information on text, see "Adding and formatting text" on page 171.

Adding objects

To add any objects to a slide, for example a picture, clipart, drawing, photograph, or spreadsheet, click on **Insert** then select from the drop down menu what type of object you want to insert. For more information, see "Adding pictures, tables, charts, and media" on page 176.

Modifying appearance of all slides

To change the background and other characteristics of all slides in the presentation, you need to modify the master page or choose a different master page as explained in "Working with slide masters and styles" on page 179.

A *Slide Master* is a slide with a specified set of characteristics that acts as a template and is used as the starting point for creating other slides. These characteristics include slide background, objects in the background, formatting of any text used, and any background graphics.

🟢 **Note**

> LibreOffice uses three terms for a slide that is used to create other slides: *master slide*, *slide master*, and *master page*. This book uses the term *slide master,* except when describing the user interface.

Impress has a range of slide masters and these are found in the **Master Pages** section of the Sidebar. You can also create and save additional slide masters or add more from other sources. See the *Impress Guide Chapter 2 Using Slide Masters, Styles, and Templates* for more information on creating and modifying slide masters.

If all you need to do is to change the background, you can use a shortcut:

1) Select **Format > Page** and go to the *Background* tab on the **Page Setup** dialog that opens.
2) Select the desired background between solid color, gradient, hatching, and bitmap.
3) Click **OK** to apply it.
4) A dialog opens asking if the background should be applied to all the slides. Click **Yes** if you want all the slides modified and Impress will automatically modify the master page for you.

🟢 **Note**

> Inserting and correctly formatting a background is beyond the scope of this chapter, but you can find all the information you need in the *Draw Guide Chapter 4 Changing Object Attributes* or in the *Impress Guide Chapter 6 Formatting Graphic Objects*.

Modifying the slide show

By default the slide show will display all the slides in the same order as they appear in the slide sorter, without any transition between slides. You need to use keyboard input or mouse interaction to move from one slide to the next.

You can use **Slide Show** on the Menu bar to change the order of the slides, choose which ones are shown, automate moving from one slide to the next, and other settings. To change the slide transition, animate slides, add a soundtrack to the presentation, and make other enhancements, you need to use functions in the Sidebar. See the *Impress Guide* for details on how to use all of these features.

Adding and formatting text

Many of your slides are likely to contain some text. This section gives some guidelines on how to add text and change its appearance. Text used in slides is contained in *text boxes*. For more information on adding and formatting text, see the *Impress Guide Chapter 3 Adding and Formatting Text*.

You can add two types of text boxes to a slide:

- Choose a predefined layout from the *Layouts* section of the Sidebar and do not select any special contents type. These text boxes are called **AutoLayout** text boxes.

- Create a text box using the **Text** icon ⊞ on the Standard toolbar (Figure 147) or the Text toolbar (Figure 147), or use the keyboard shortcut *F2*.

Figure 146: Standard toolbar

Figure 147: Text toolbar

Using AutoLayout text boxes

1) Make sure Normal view is selected.

2) Click in the text box that reads **Click to add text**.

3) Type or paste your text in the text box.

Using text boxes

1) Make sure Normal view is selected.

2) Click on the **Text** icon ⊞ on the Standard or Text toolbar or use the keyboard shortcut *F2*. If the Standard or Text toolbars are not visible, go to **View > Toolbars** on the Menu bar and select **Standard** or **Text**.

3) Click and drag to draw a box for the text on the slide. Do not worry about the vertical size and position as the text box will expand if needed as you type.

4) Release the mouse button when finished. The cursor appears in the text box, which is now in edit mode (a colored border shown in Figure 148).

5) Type or paste your text in the text box.

6) Click outside the text box to deselect it.

You can move, resize, and delete text boxes. For more information, see the *Impress Guide Chapter 3 Adding and Formatting Text*.
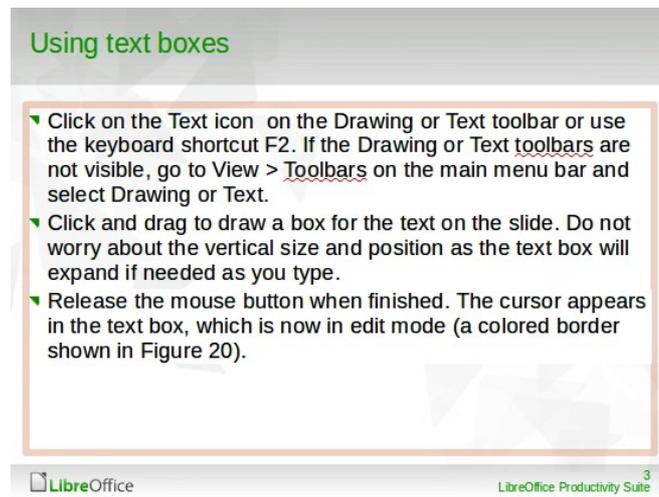
Figure 148: Creating and editing text boxes

Vertical text

In addition to the normal text boxes where text is horizontally aligned, it is possible to insert text boxes where the text is aligned vertically. Vertical text is available only when Asian languages are enabled in **Tools > Options > Language Settings > Languages**. Click the **Vertical Text** icon in the Standard toolbar or Text toolbar to create a vertical text box.

Quick font resizing

Impress has an **Increase Font** icon and a **Decrease Font** icon on the Text Formatting toolbar (highlighted in Figure 149) to increase or decrease the font size of selected text. The amount by which the font size changes depends on the standard sizes available for the font in use.

Figure 149: Quick font resizing on Text Formatting toolbar

Pasting text

Text may be inserted into the text box by copying it from another document and pasting it into Impress. However, pasted text will probably not match the formatting of the surrounding text on the slide or that of the other slides in the presentation. This may be what you want on some occasions; however, in most cases you want to make sure that the presentation style is consistent and does not become a patchwork of different paragraph styles, font types, bullet points and so on. There are several ways to ensure consistency in your presentation.

Pasting unformatted text

It is normally good practice to paste text without formatting and apply the formatting later. To paste text without formatting:

1) Use the keyboard shortcut *Ctrl+Shift+V* and select **Unformatted text** from the Paste Special dialog that opens.

2) Or click on the small triangle next to the **Paste** icon in the Standard toolbar and select **Unformatted text** from the context menu.

3) The unformatted text will be formatted with the outline or paragraph style at the cursor position in an AutoLayout text box or with the default graphic style in a normal text box.

Formatting pasted text

When formatting pasted text, you can use the tools available on the Text Formatting toolbar (Figure 150), or the tools available in the *Character* and *Paragraph* sections of the *Properties* deck in the Sidebar (Figure 151). If the *Character* and *Paragraph* sections do not automatically open after selecting some text, click on the Properties icon ![wrench icon] at the side of the Sidebar.

Figure 150: Text Formatting toolbar
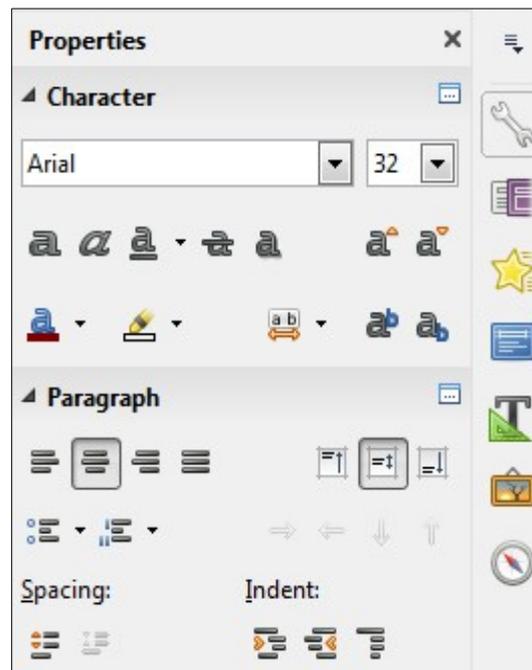
Figure 151: Sidebar Character section

If you are pasting the text into an **AutoLayout** text box, you need to apply the appropriate *outline style* to the text to give it the same look and feel as the rest of the presentation.

1) Paste the text in the desired position.

2) Select the text you have just pasted.

3) Select **Format > Default formatting** on the Menu bar.

4) Use the four arrow buttons on the Text Formatting toolbar (highlighted in Figure 133 on page 160) to move the text to the appropriate position and give it the appropriate outline level.

   – Left arrow promotes a list entry by one level (for example from Outline 3 to Outline 2).

   – Right arrow button demotes a list entry by one level.

   – Up arrow moves a list entry up in the list order.

   – Down arrow moves a list entry down in the list order.

5) Apply any necessary manual formatting to the text to change font attributes, tabs, and so on.

If you are pasting text in a **text box**, you can still use styles to format the text quickly. Only one graphic style can be applied to the pasted text, as follows:

1) Paste the text in the desired position.

2) Select the text you have just pasted.

3) Select the desired graphic style to format the text.

4) Apply any necessary manual formatting to the text to change font attributes, tabs, and so on.

Creating bulleted and numbered lists

The procedure to create a bulleted or numbered list is quite different depending on the type of text box used, although the tools to manage the list and customize the appearance are the same. In AutoLayout text boxes, the outline styles available are, by default, bulleted lists. For normal text boxes an additional step is required to create a bulleted list.

AutoLayout text boxes

AutoLayout text boxes included in the available layouts are already formatted as a bulleted list. Create a slide with a bulleted list as follows:

1) From the Layout pane, choose a slide design that contains a text box.

2) In the text box, click on **Click to add text.**

3) Type your text and press the *Enter* key to start a new bulleted point.

The default list type is a bulleted list. Methods for changing the appearance of a list are explained in "Changing list appearance" on page 175.

> **Tip**
>
> Press *Shift+Enter* to start a new line without creating a new bullet point. The new line will have the same indentation as the previous line. To switch off bullets altogether, click the **Bullets On/Off** icon ▤ on the Text Formatting toolbar. If the Text Formatting toolbar is not displayed, go to **View > Toolbar > Text Formatting** on the Menu bar.

Text boxes

Create a bulleted list in a text box as follows:

1) Click the **Text** icon 🅃 on the Standard toolbar and draw a text box on your slide.

2) Click the **Bullets On/Off** icon ▤ on the Text Formatting toolbar.

3) Type the text and press *Enter* to start a new bulleted line.

The default list type is a bulleted list. Methods for changing the appearance of a list are explained in "Changing list appearance" on page 175.

Creating a new outline level

In AutoLayout text boxes, create a new outline level as follows:

1) If necessary, press *Enter* to begin a new list entry.

2) To demote a list entry (move it to the right), press the *Tab* key or click the Demote (right arrow) icon on the Text Formatting toolbar or use the keyboard shortcut *Alt+Shift+Right*. The list entry moves to the right and is indented to the next outline level.

3) To promote a list entry (move it to the left), press *Shift+Tab* or click the Promote (left arrow) icon on the Text Formatting toolbar or use the keyboard shortcut *Alt+Shift+Left*. The list entry moves to the left and is indented at the next higher level.

4) To create a new list entry at the same level as the previous one, press *Enter* again.

In the AutoLayout text boxes, promoting or demoting an item in the list corresponds to applying a different outline style. The second outline level corresponds to Outline 2 style, the third outline level to Outline 3 style, and so on. A change in level and style produces other changes, for example, to font size, bullet type, and so on.

In text boxes, a new outline level can only be created using the *Tab* key to demote the list entry and the *Shift+Tab* key combination to promote the list entry.

Note

Do not try to change the outline level by selecting the text and then clicking the desired outline style as you would in Writer. Due to the way that presentation styles work in Impress, it is not possible to change the level in this way.

Changing list appearance

You can fully customize list appearance by changing the bullet type or numbering for the entire list or for only a single entry. All of the changes can be made using the Bullets and Numbering dialog (Figure 152), which is accessed by going to **Format > Bullets and Numbering** on the Menu bar or by clicking on the **Bullets Icon** or the **Numbering** icon on the Text Formatting toolbar.
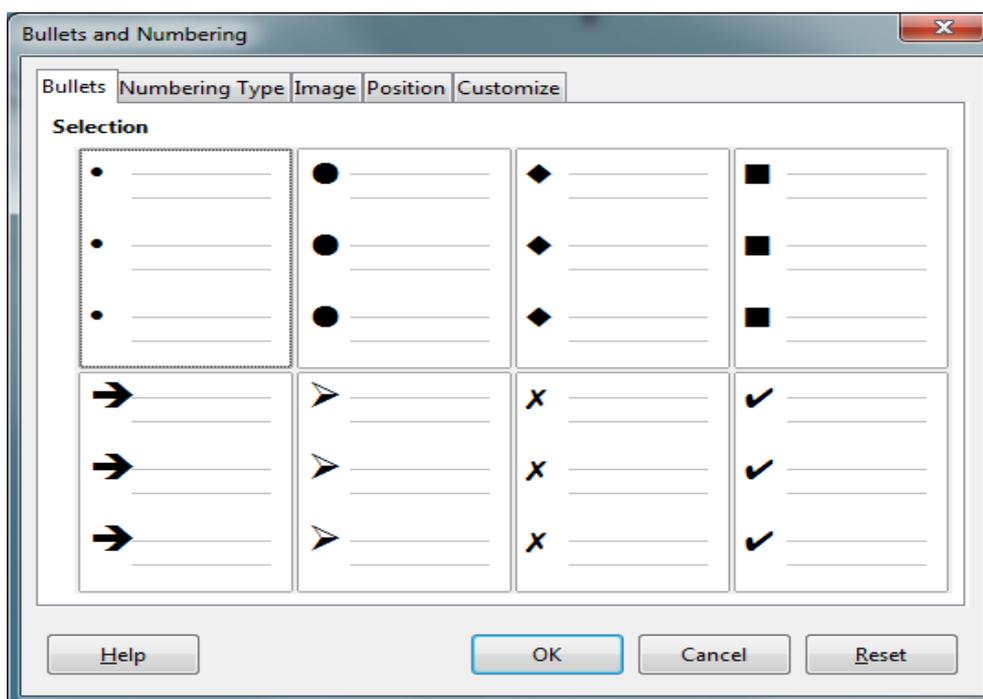
Figure 152: Bullets and Numbering dialog

For the entire list:

1) Select the entire list or click on the border of the text box so that the resizing handles are displayed.

2) Select **Format > Bullets and Numbering** on the Menu bar or click on the **Bullets** or **Numbering** icon on the Text Formatting toolbar.

3) The Bullets and Numbering dialog (Figure 152) contains five pages: Bullets, Numbering type, Image, Position, and Customize.

   – If a bullet list is needed, select the desired bullet style from the default styles available on the *Bullets* page.

   – If a graphics style is needed, select one from those available on the *Image* page.

   – If a numbered list is needed, select one of the default numbering styles on the *Numbering type* page.

   – Use the *Position* page to set the indent and numbering spacing and alignment of your list.

   – Use the *Customize* page to customize the numbering, color, relative size, and character used for your list.

4) For a single list entry, click anywhere in the text and then follow steps 2 and 3 above.

If the list was created in an AutoLayout text box, then an alternative way to change the entire list is to modify the Outline styles. Changes made to the outline style will apply to all the slides using them.

Adding pictures, tables, charts, and media

A contents box can contain pictures, tables, charts, or media as well as text. This section provides a quick overview of how to work with these objects. For more information on adding pictures, tables, charts, or media, please refer to the *Impress Guide*.

Adding pictures

To add a picture to a contents box:

1) Go to **Insert > Image** on the Menu bar and then select either **From file** or **Scan**.

2) Alternatively, after inserting a new slide, click the **Insert Image** icon (Figure 145 on page 169) on the new slide and select the file from the Insert Image dialog that opens. To see a preview of the picture, select **Preview** at the bottom of the Insert Image dialog.

3) Move the picture to the desired location.

4) The picture will automatically resize to fill the area of the contents box. Follow the directions in the note below when manually resizing a graphic.

🟢 **Note**

When resizing a graphic, right-click the picture. Select **Position and Size** from the context menu and make sure that **Keep ratio** is selected. Then adjust the height or width to the size you need. As you adjust one dimension, both dimensions will change to keep the width and height ratio the same. Failure to do so will cause the picture to become distorted. Remember also that resizing a bitmap image will reduce its quality; it is better to create an image of the desired size outside of Impress.

Adding tables

To add basic tables to a slide:

1) Go to **Insert > Table** on the Menu bar, or click the **Table** icon ⊞ ˅ on the Standard toolbar.

2) If there is a table already on the slide and it is selected, click the **Table** icon ⊞ˇ on the Table toolbar. The Table toolbar is only visible after selecting **View > Toolbars > Table** on the Menu bar and when a table is selected.

3) Alternatively and after inserting a new slide into your presentation, click the **Insert Table** icon (Figure 145 on page 169).

4) Select the number of rows and columns required from the Insert Table dialog that opens.

5) Alternatively, click the small triangle to the right of the **Table** icon ⊞ˇ and select the number of rows and columns by dragging the cursor.

6) Select a design style from the available options for your table in the Table Design deck in the Properties section of the Sidebar (Figure 153). If the *Table Design* section does not automatically open after inserting or selecting a table, click on the Properties icon 🔧 at the side of the Sidebar.
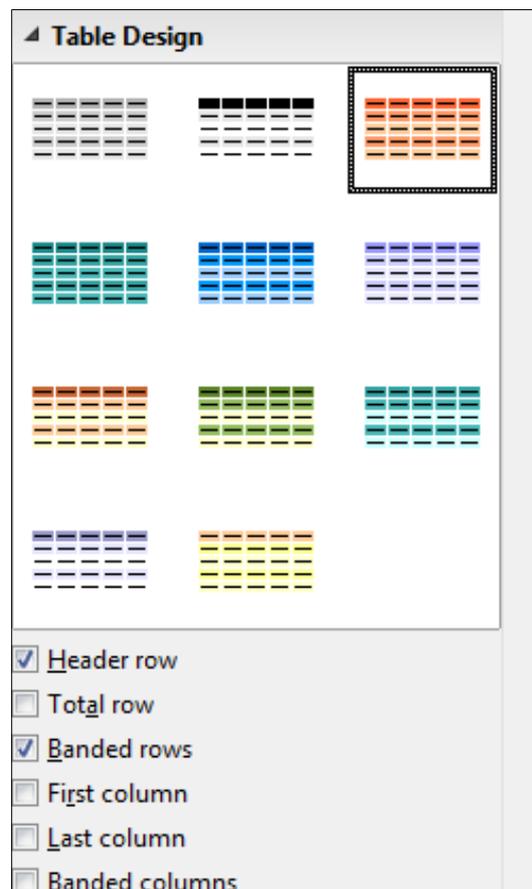
Figure 153: Sidebar Table Design section

🟢 **Note**

Selecting from any of the styles in the Table Design section in the Sidebar creates a table based on that style. If you create a table by another method, you can still apply a style of your choice later.

The Table toolbar in Impress offers the same functions as the Table toolbar in Writer, with the exception of the calculation functions Sort and Sum. To use Sum and Sort in your presentation, you have to insert a Calc spreadsheet.

After the table is created, you can modify it by adding and deleting rows and columns, adjusting width and spacing, adding borders, background colors and so on. For more information on working with tables see the *Impress Guide Chapter 3 Adding and Formatting Text* and the *Writer Guide Chapter 9 Working with Tables*.

Entering data into table cells is similar to working with text box objects. Click in the cell you wish to add data to and begin typing. To move around cells quickly, use the following keyboard options:

- Press the *arrow* keys to move the cursor to another cell if the cell is empty, or to the next character if the cell already contains text.
- Press the *Tab* key to move to the next cell on the right and press *Shift+Tab* to move to the next cell on the left..

Adding charts

To insert a chart in a slide:

1) Go to **Insert > Chart** on the Menu bar or click on the **Chart** icon in the Standard toolbar.
2) Alternatively and after inserting a new slide, click on the **Insert Chart** icon (Figure 145 on page 169).
3) Impress will insert a default chart and open the Chart dialog. To modify the chart type, insert your own data and change the formatting, refer to the *Impress Guide*.

Adding media files

To insert media files, such as music and movie clips, in a slide:

1) Go to **Insert > Media > Audio or Video** on the Menu bar.
2) Alternatively and after inserting a new slide, click on the **Insert Audio or Video** icon (Figure 145 on page 169).
3) A media player will open at the bottom of the screen and you can preview the media.
4) When an audio file is inserted, the contents box will show a loudspeaker image.

Note

In Linux-based systems such as Ubuntu, media files do not immediately work. You have to download the Java Media Framework API (JMF) and add the path `jmf.jar` to the Class Path in **Tools > Options > LibreOffice > Java**.

Adding graphics, spreadsheets, and other objects

Graphics, such as shapes, callouts, arrows, and so on, are often useful to complement the text on a slide. These objects are handled much the same way as graphics in Draw. For more information, see the *Draw Guide Chapter 7 Getting Started with Draw*, or the *Impress Guide Chapters 4, 5, and 6*.

Spreadsheets embedded in Impress include most of the functionality of Calc spreadsheets and are capable of performing extremely complex calculations and data analysis. If you need to analyze your data or apply formulas, these operations are best performed in a Calc spreadsheet and the results displayed in an embedded Calc spreadsheet or even better in an Impress table.

Alternatively, go to **Insert > Object > OLE Object** on the Menu bar. You can select from options that include a LibreOffice 5.0 Spreadsheet. This opens a spreadsheet in the middle of the slide and the menus and toolbars change to those used in Calc. You can start adding data, though you may

have to resize the visible area on the slide. You can also insert an existing spreadsheet and use the viewport to select the data that you want to display on your slide.

Impress offers the capability of inserting into a slide various other types of objects such as Writer documents, Math formulas, Draw drawings, or another presentation. For details on using these objects, refer to the *Impress Guide Chapter 7 Including Spreadsheets, Charts, and Other Objects.*

Working with slide masters and styles

A slide master is a slide that is used as the starting point for other slides. It is similar to a page style in Writer and it controls the basic formatting of all slides based on it. A slide show can have more than one slide master.

> **Note**
>
> LibreOffice uses three terms for a slide that is used to create other slides: *master slide*, *slide master*, and *master page*. This book uses the term *slide master,* except when describing the user interface.

A slide master has a defined set of characteristics, including background colors, graphics, gradients; and other objects (such as logos, decorative lines and so on), headers and footers, placement and size of text frames, and text format.

Styles

All of the characteristics of slide masters are controlled by styles. New slides that you create using a slide master have styles that are inherited from the slide master which was used. Changing a style in a slide master results in changes to all slides based on that slide master, but you can modify individual slides without affecting the slide master.

> **Note**
>
> Although it is highly recommended to use the slide masters whenever possible, there are occasions where manual changes are needed for a particular slide, for example to enlarge the chart area when the text and chart layout is used.

Slide masters have two types of styles associated with them: *presentation styles* and *image styles*. The prepackaged presentation styles can be modified, but new presentation styles cannot be created. For image styles, you can modify the prepackaged styles and also create new image styles.

Presentation styles affect three elements of a slide master: background, background objects (such as icons, decorative lines, and text frames), and text placed on the slide. Text styles are further divided into *Notes*, *Outline 1* through *Outline 9*, *Subtitle*, and *Title*. The outline styles are used for the different levels of the outline to which they belong. For example, Outline 2 is used for the sub-points of Outline 1, and Outline 3 is used for the sub-points of Outline 2, and so on.

Image styles are not restricted and can affect many of the elements of a slide. Note that text styles exist in both the presentation and image style selections.

Slide masters

Impress comes with a collection of slide masters. These slide masters are shown in the Master Pages section of the Sidebar (Figure 154) and has three subsections: *Used in This Presentation*, *Recently Used*, and *Available for Use*. Click the + sign next to the name of a subsection to expand

it to show thumbnails of the slides, or click the – sign to collapse the subsection to hide the thumbnails.

Each of the slide masters shown in the *Available for Use* list is from a template of the same name. If you have created your own templates, or added templates from other sources, slide masters from those templates will also appear in this list.

Figure 154: Sidebar Master Pages section
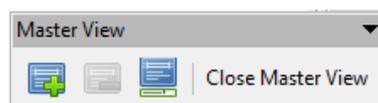
Figure 155: Master View toolbar

Creating a slide master

Creating a new slide master is similar to modifying the default slide master.

1) Enable editing of slide masters by selecting **View > Master > Slide Master** on the Menu bar and the **Master View** toolbar opens (Figure 155). If the Master View toolbar does not appear, go to **View > Toolbars** and select **Master View.**

2) On the Master View toolbar, click the **New Master** icon .

3) A new slide master appears in the Slides pane. Modify this slide master to suit your requirements.

4) It is also recommended that you rename this new slide master. Right-click on the slide in the Slides pane and select **Rename master** from the context menu.

5) When finished creating a slide master, click **Close Master View** on the Master View toolbar and return to normal slide editing mode.

Applying a slide master

To apply a slide master to all the slides in your presentation:

1) Click on the Master Pages icon ⬛ in the Sidebar to open the Master Pages section (Figure 154).

2) To apply one of the slide masters from the available selection to *all slides* in your presentation, right-click on it and select **Apply to All Slides** on the context menu.

To apply a different slide master to one or more selected slides:

1) In the Slide Pane, select the slide or slides where you want to use a new slide master.

2) In the Master Pages section on the Sidebar, right-click on the slide master you want to apply to the selected slides, and select **Apply to Selected Slides** on the context menu.

Loading additional slide masters

Sometimes, in the same set of slides, you may need to mix multiple slide masters that may belong to different templates. For example, you may need a completely different layout for the first slide of the presentation, or you may want to add to your presentation a slide from a different presentation (based on a template available on the hard disk).
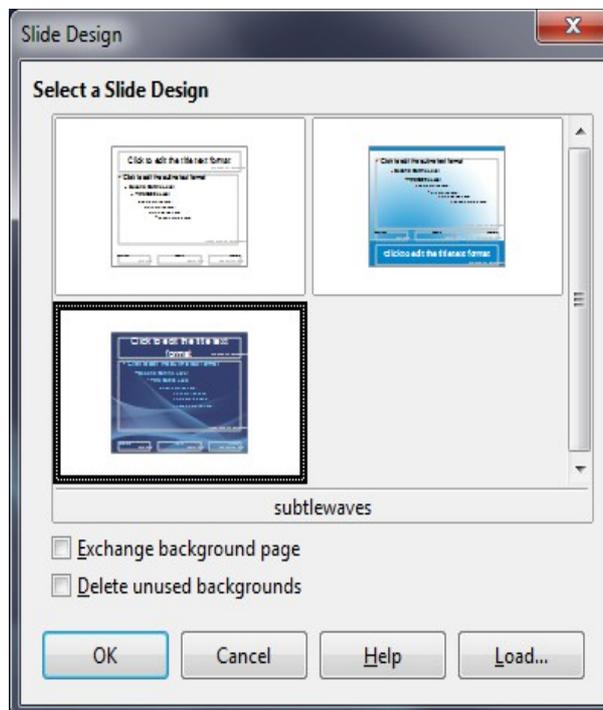
Figure 156: Slide Design dialog

1) Go to **Format > Slide Design** on the Menu bar or right-click on a slide in the Slides Pane and select **Slide Design** from the context menu to open the Slide Design dialog (Figure 156). This dialog shows the slide masters already available for use.

2) To add more slide masters, click the **Load** button to open the Load Slide Design dialog (Figure 157).

3) Select in the Load Slide Design dialog the template from which to load the slide master and click **OK**.

4) Click **OK** again to close the Slide Design dialog.

5) The slide masters in the template you selected to use are now shown in the *Available for use* subsection of Master Pages.
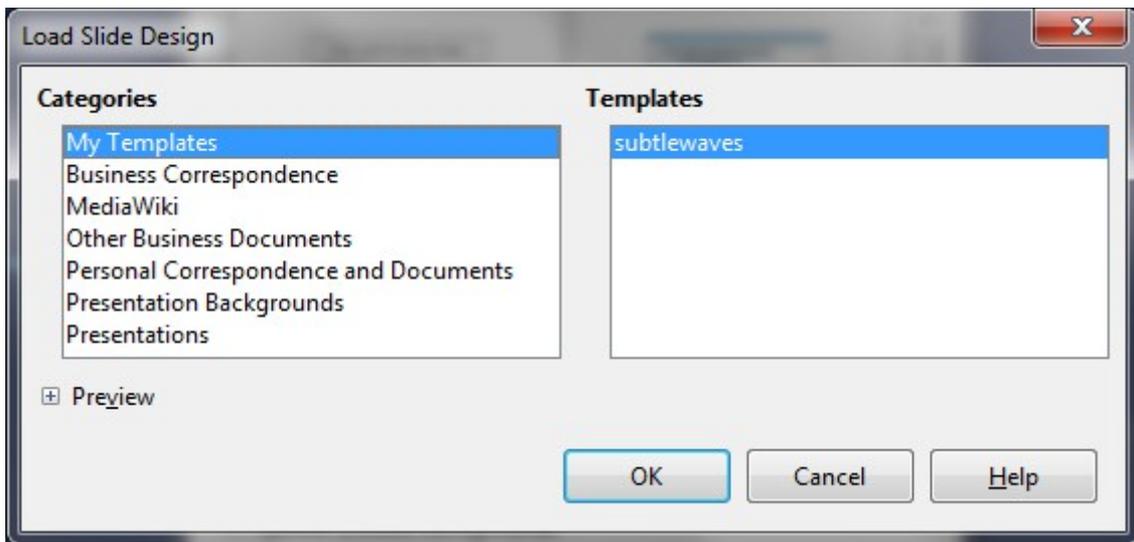
Figure 157: Load Slide Design dialog

🟢 **Note**

The slide masters you have loaded will also be available the next time you load the presentation. If you want to delete the unused slide masters, click the corresponding checkbox in the Slide Design dialog. If the slide master was not used in the presentation, it is removed from the list of available slide masters.

▶ **Tip**

To limit the size of the presentation file, you may want to minimize the number of slide masters used.

Modifying a slide master

The following items can be changed on a slide master:

- Background (color, gradient, hatching, or bitmap)
- Background objects (for example, a logo or decorative graphics)
- Size, placement, and contents of header and footer elements to appear on every slide
- Size and placement of default frames for slide titles and content

For more information on modifying slide masters, see the *Impress Guide Chapter 2 Using Slide Masters, Styles, and Templates.*

1) Select **View > Master > Slide Master** from the Menu bar. This unlocks the properties of a slide master so you can edit it.

2) Select a slide master in *Master Pages* in the Slides pane.

3) Select an object on the slide master in the Workspace and the Sidebar will display the property options that can be changed for the selected object. Figure 158 Shows a graphic object selected with the *Graphic* properties section open on the Sidebar.

4) Make all necessary changes to the slide master, then click the **Close Master View** icon on the Master View toolbar or go to **View > Normal** on the Menu bar to exit from editing slide masters.

5) Save your presentation file before continuing.

Note

Any changes made to one slide when in Master View mode will appear on *all* slides using this slide master. Always make sure you Close Master View and return to Normal view before working on any of the presentation slides.
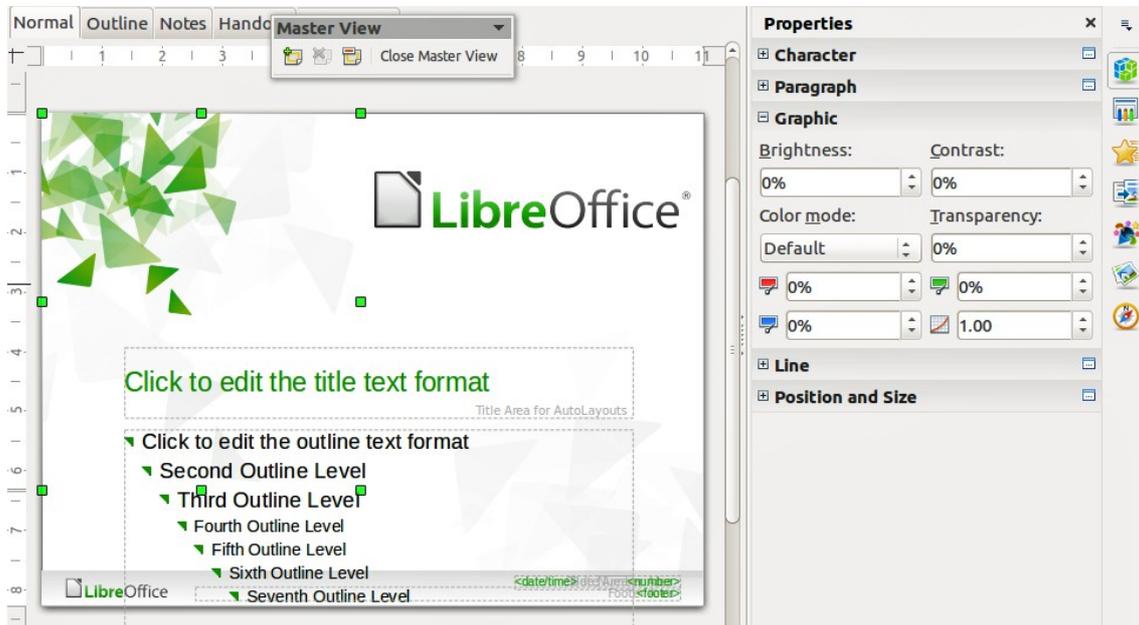
Figure 158: Editing a slide master

Note

The changes made to one of the slides in Normal view (for example, changes to the bullet point style, the color of the title area, and so on) will not be overridden by subsequent changes to the slide master. There are cases, however, where it is desirable to revert a manually modified element of the slide to the style defined in the slide master. To revert back to default formatting, select the element and select **Format > Default Formatting** from the Menu bar.

Adding text, footers, and fields to all slides

A slide master can have text, footers, or fields added so that they appear on every slide in your presentation. Headers are not normally added to slides.

Text

1) Go to **View > Master > Slide Master** on the Menu bar to open Master View (Figure 159).

2) On the Drawing toolbar, select the **Text** icon or press the *F2* key.

3) Click and drag in the master page to draw a text object and then type or paste your text into the text object.

4) Go to **View > Normal** on the Menu bar or click on **Close Master View** on the Master View toolbar when you have finished entering text objects that you want to appear on every slide in your presentation.

Footers

To add a footer to your slides:

1) Go to **View > Master > Slide Master** on the Menu bar to open Master View (Figure 159).

2) Go to **Insert > Date** or **Insert > Page Number** on the Menu bar and time to open the Header and Footer dialog (Figure 160).

3) Select the type of date and time and type in the footer text and slide number from the available options in the dialog.
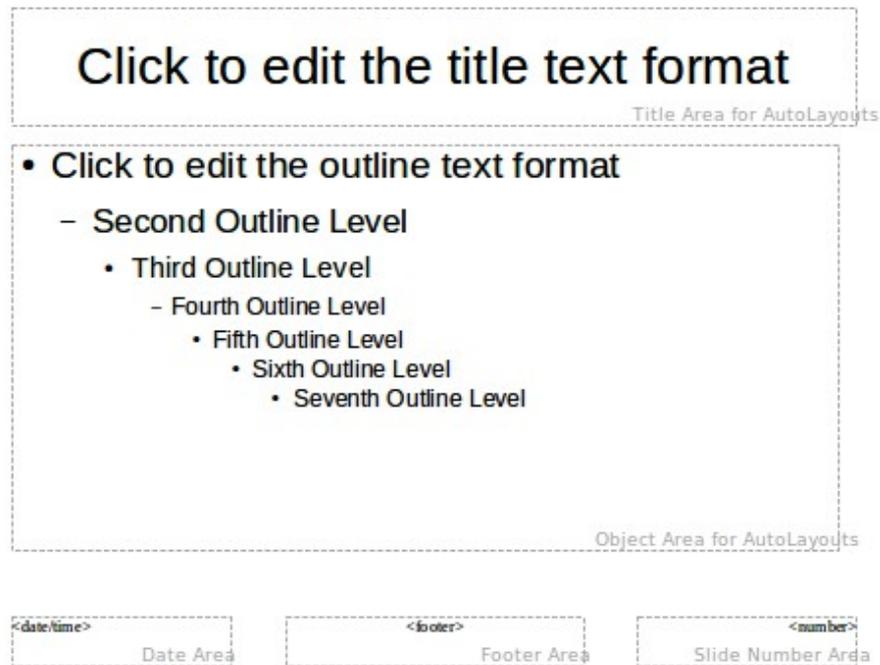
Figure 159: Example master view
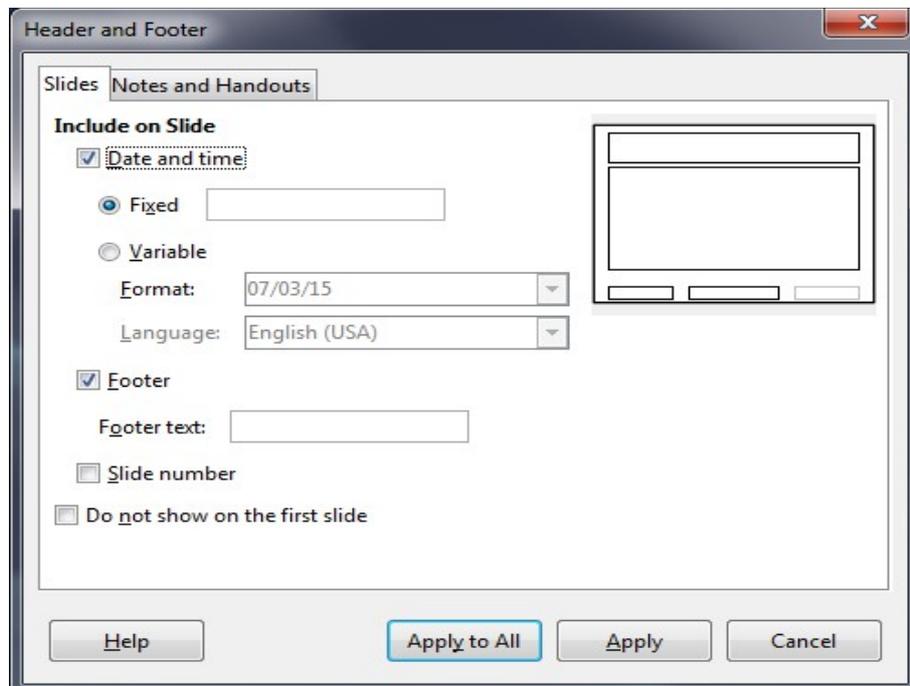
Figure 160: Footer dialog in Impress

4) Click **Apply to All** to apply your changes to all the slide masters in your presentation, or click **Apply** to apply your changes to the selected slide master in your presentation.

5) Alternatively, you can add the date/time, footer text and slide number directly into their respective areas as shown in Figure 159.

Note

Normally only footers are used on a slide. To create a header, you can use a text box as explained in "Text" on page 183.

Fields

To add a field into an object or as a separate object on a slide, select **Insert > Fields** on the Menu bar and select the required field from the submenu. If you want to edit this field in your slide, see the *Impress Guide Chapter 3 Adding and Formatting Text* for more information.

The fields you can use in Impress are as follows:

- Date (fixed)
- Date (variable): updates automatically when you reload a file
- Time (fixed)
- Time (variable): updates automatically when you reload a file
- Author: first and last names listed in the LibreOffice user data
- Page Number: this is the slide number in Impress.
- Page Count: this is the number of slides in your presentation.
- File Name

Tip

To change the author information, go to **Tools > Options > LibreOffice > User Data** on the Menu bar.

To change the number format (1,2,3 or a,b,c or i,ii,iii, and so on) for the number field, go to **Format > Page** on the Menu bar and then select a format from the *Format* list in the **Layout Settings** area.

To change a paragraph style throughout your presentation, open the Styles and Formatting dialog and modify the appropriate presentation style.

Adding comments to a presentation

Impress supports comments similar to those in Writer and Calc.

In Normal View, go to **Insert > Comment** on the Menu bar to open a blank comment (Figure 161). A small box containing your initials appears in the upper left-hand corner of the slide, with a larger text box beside it. Impress automatically adds your name and the current date at the bottom of the text box.

Type or paste your comment into the text box. You can optionally apply some basic formatting to the comment by selecting it, right-clicking, and choosing from the context menu that opens. This menu allows you to apply formatting to selected text, delete the current comment, delete all comments from the same author, or delete all comments in the presentation.

Figure 161: Inserting comments

You can move the small comment markers to anywhere you wish on the slide. Typically you might place it on or near an object you refer to in the comment.

To show or hide the comment markers, choose **View > Comments**.

Select **Tools > Options > User Data** to configure the name you want to appear in the comment.

If more than one person edits the document, each author is automatically allocated a different background color for their comments.

Setting up a slide show

As mentioned in "Modifying the slide show" on page 170, Impress allocates reasonable default settings for slide shows, while at the same time allowing for customizing many aspects of the slide show experience. This section covers only some aspects and more advanced techniques are explained in the *Impress Guide Chapter 9 Slide Shows*.

Most of the tasks are best done in Slide Sorter view where you can see most of the slides simultaneously. Go to **View > Slide Sorter** on the Menu bar or click the Slide Sorter tab at the top of the Workspace.

One slide set – multiple presentations

In many situations, you may find that you have more slides than the time available to present them or you may want to provide a rapid overview without dwelling on the details. Rather than having to create a new presentation, you can use two tools that Impress offers: hiding slides and custom slide shows.

Hiding slides

1) Select the slide you want to hide in the Slide Pane or Slide Sorter view on the Workspace area.

2) Go to **Slide Show > Hide Slide** on the Menu bar or right-click on the slide thumbnail and select **Hide Slide** from the context menu. Hidden slides are marked by a diagonal bars across the slide.

Custom slide shows

If you want to create a custom slide show from the same presentation:

1) Select the slides you want to use in your custom slide show.

2) Go to **Slide Show > Custom Slide Show** on the Menu bar.

3) Click on the New button to create a new sequence of slides and save it with a different name. You can have as many slide shows as you want from a single presentation.

Slide transitions

Slide transition is the animation that is played when a slide is changed for the next slide in your presentation. You can configure the slide transition from the Slide Transition section in the Tasks Pane.

1) Go to **Slide Show > Slide Transition** on the Menu bar or click on the Slide Transition icon on the Sidebar to open the options available for slide transitions.

2) Select the desired transition, the speed of the animation, and whether the transition should happen when you click the mouse (preferred) or automatically after a certain number of seconds.

3) Click **Apply to All Slides** to apply the transition for all of your presentation or continue selecting transitions to place between each slide in your presentation.

> **Tip**
>
> The Slide Transition section has a very useful choice: Automatic preview. Select its checkbox and when you make any changes in a slide transition, the new slide is previewed in the Slide Design area, including its transition effect.

Slide advance

You can set the presentation to advance automatically to the next slide after a set amount of time from the Slide Transition section in the Sidebar.

1) Go to **Advance slide** and select the **Automatically after** option.

2) Enter the required amount of time in seconds that each slide will be displayed.

3) Click on the **Apply to All Slides** button to apply the same display time to all slides.

To apply a different display time to each slide in your presentation:

1) Go to **Slide Show > Rehearse Timings** on the Menu bar and the slide show starts.

2) When you are ready to advance to the next slide, mouse click on the display background or press the right arrow or spacebar on your keyboard.

3) Impress will memorize the timings for each slide and will advance to the next slide automatically using these timings when you run the slide show.

To restart a slide show automatically after the last slide has been displayed:

1) Go to **Slide Show > Slide Show Settings** on the Menu bar.

2) Select **Auto** and the timing of the pause between slide shows.

3) Click **OK** when you have finished.

Running a slide show

To run a slide show, do one of the following:

• Click **Slide Show > Start from first Slide** on the Menu bar.

• Click the **Start from first Slide** icon on the Presentation toolbar.

• Press *F5* on the keyboard.

If the slide advance is set to *Automatically after X sec*, let the slide show run by itself.

If the slide advance is set to *On mouse click*, do one of the following to move from one slide to the next:

- Use the arrow keys on the keyboard to go to the next slide or to go back to the previous one.

- Click the mouse to move to the next slide.

- Press the spacebar on the keyboard to advance to the next slide.

Right-click anywhere on the screen to open a context menu where you can navigate through the slides and set other options.

To exit the slide show at any time including when the slide show has ended, press the *Esc* key.

Presenter Console

LibreOffice Impress has a Presenter Console function that can be used when an extra display for presentation has been connected to your computer. The Presenter Console (Figure 162) provides extra control over slide shows by using different views on your computer display and on the display that the audience sees. The view you see on your computer display includes the current slide, the upcoming slide, any slide notes, and a presentation timer.

For more information and details about using the Presenter Console, see the *Impress Guide Chapter 9 Slide Shows*.
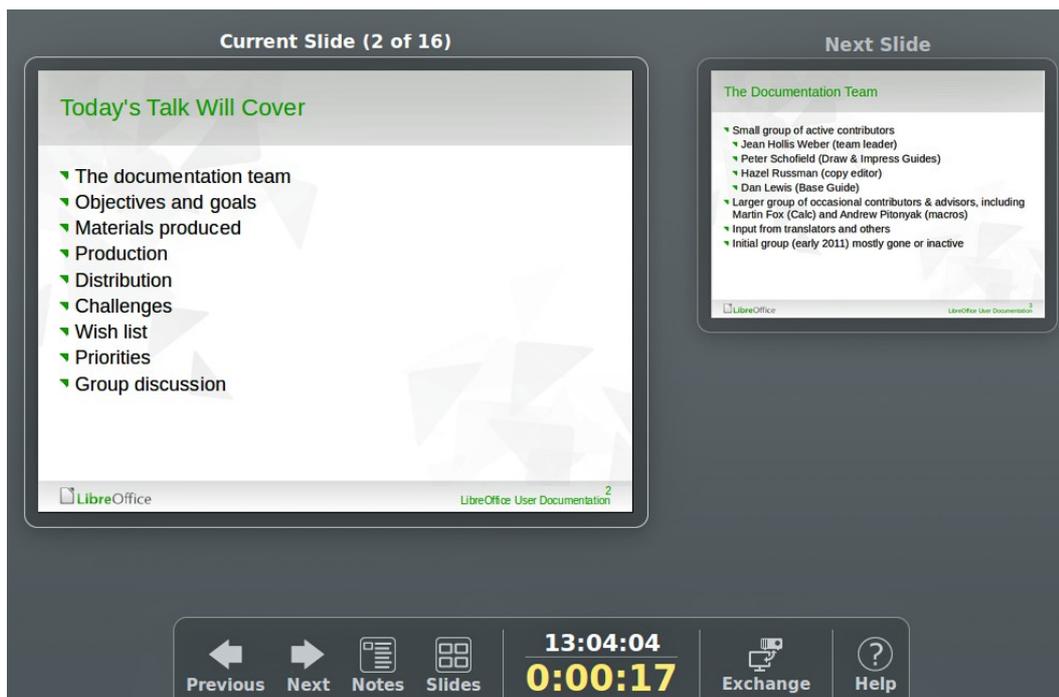
Figure 162: Impress Presenter Console

Chapter 7
Getting Started with Draw

Vector Drawing in LibreOffice

What is Draw?

LibreOffice Draw is a vector graphics drawing program, although it can also perform some operations on raster graphics (pixels). Using Draw, you can quickly create a wide variety of graphical images.

Vector graphics store and display an image as an assembly of simple geometric elements such as lines, circles, and polygons, rather than a collection of pixels (points on the screen). Vector graphics allow for easier storage and scaling of the image.

Draw is fully integrated into the LibreOffice suite, and this simplifies exchanging graphics with all components of the suite. For example, if you create an image in Draw, reusing it in a Writer document is as simple as copying and pasting the image. You can also work with drawings directly from within Writer or Impress, using a subset of the functions and tools from **Draw**.

The functionality of LibreOffice Draw is extensive and, even though it was not designed to rival high-end graphics applications, it possesses more functionality than the drawing tools that are generally integrated with most office productivity suites.

A few examples of the drawing functions are: layer management, magnetic grid-point system, dimensions and measurement display, connectors for making organization charts, 3D functions that enable small three-dimensional drawings to be created (with texture and lighting effects), drawing and page-style integration, and Bézier curves.

This chapter introduces some features of Draw and does not attempt to cover all of the Draw features. See the *Draw Guide* and the application help for more information.

Draw main window

The main components of the Draw main window are shown in Figure 163:

- Menu bar
- Standard toolbar
- Pages pane
- Workspace
- Status bar
- Drawing toolbar
- Sidebar

Workspace

The large area in the center of the window (Workspace) is where you create your drawings and this drawing area can be surrounded with toolbars and information areas. The number and position of the visible tools vary with the task in hand and user preferences, therefore your setup may look different from Figure 163.

In LibreOffice Draw, the maximum size of a drawing is 300 cm by 300 cm.
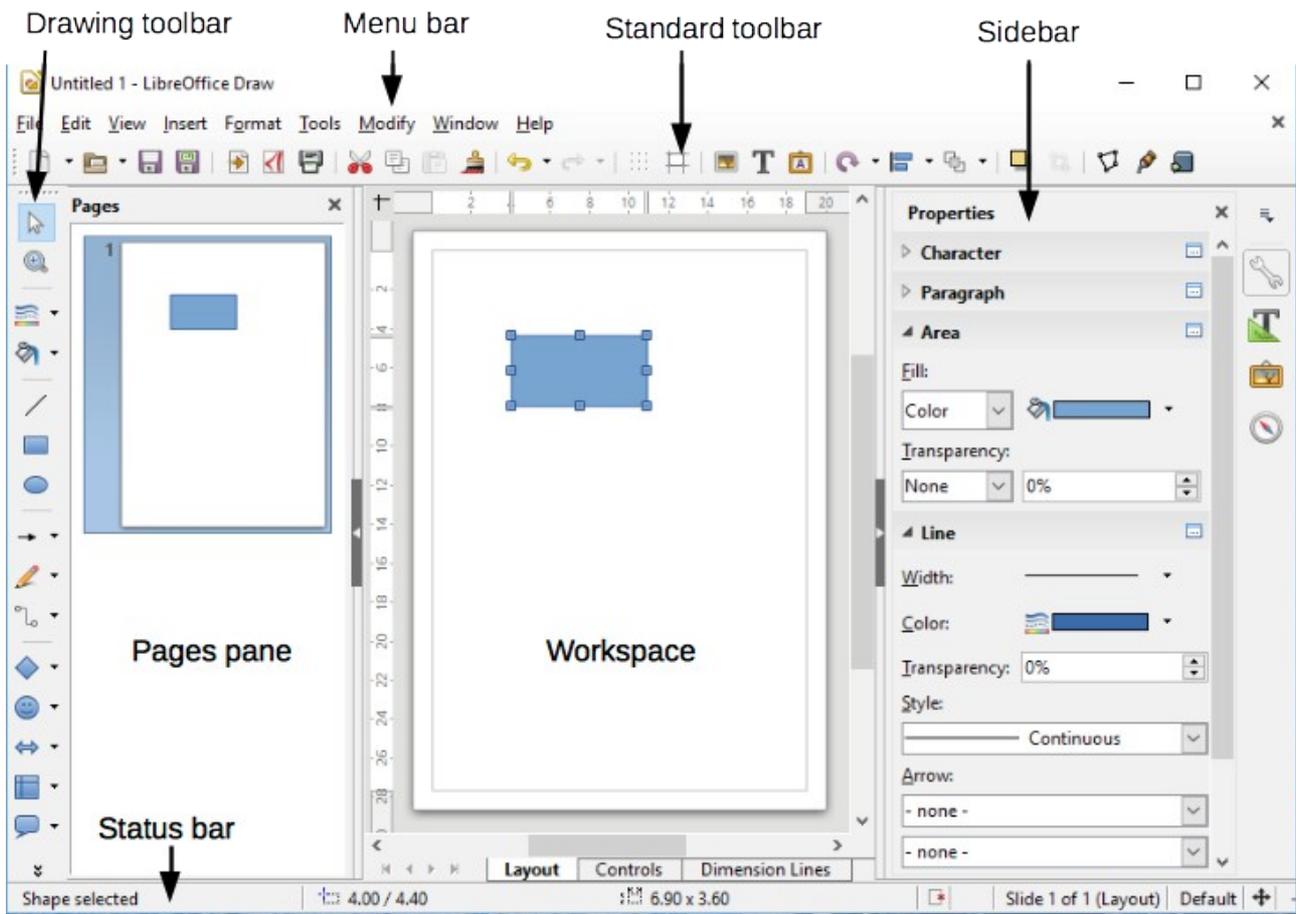
Figure 163: LibreOffice Draw workspace

Pages pane

You can split drawings in Draw over several pages. Multi-page drawings are used mainly for presentations. The *Pages* pane gives an overview of the pages that you create in your drawing. If the Pages pane is not visible, go to **View** on the Menu bar and select **Page Pane**. To make changes to the page order, drag and drop one or more pages.

Sidebar

The *Sidebar* has four main sections. To expand a section you want to use, click on its icon or click on the small triangle at the top of the icons and select a section from the drop down list. Only one section at a time can be open. If the Sidebar is not visible, go to **View** on the Menu bar and select **Sidebar** from the context menu.

Properties
Opens sub-sections for object properties that you can change to suit your requirements. The sub-sections are *Insert Shapes*, *Character*, *Paragraph*, *Area*, *Line* and *Position and Size*.

Styles and Formatting
Here you can edit and apply image styles to objects within your drawing. When you edit a style, the changes are automatically applied to all of the elements formatted with this image style in your drawing.

Gallery

Opens the Drawing gallery where you can insert an object into your drawing either as a copy or as a link. A copy of an object is independent of the original object. Changes to the original object have no effect on the copy. A link remains dependent on the original object. Changes to the original object are also reflected in the link.

Navigator

Opens the Drawing navigator, in which you can quickly move between pages in your drawing or select an object on the drawing. It is recommended to give pages and objects in your drawing meaningful names so that you can easily identify them when using the Navigator.

Rulers

You should see rulers (bars with numbers) on the upper and left-hand sides of the workspace. If they are not visible, you can enable them by selecting **View > Ruler** in the Menu bar. The rulers show the size of a selected object on the page using double lines (highlighted in Figure 164). When no object is selected, they show the location of the mouse pointer, which helps to position drawing objects more accurately.

You can also use the rulers to manage object handles and guide lines, making it easier to position objects.

The page margins in the drawing area are also represented on the rulers. You can change the margins directly on the rulers by dragging them with the mouse. The margin area is indicated by the grayed out area on the rulers as shown in Figure 164.
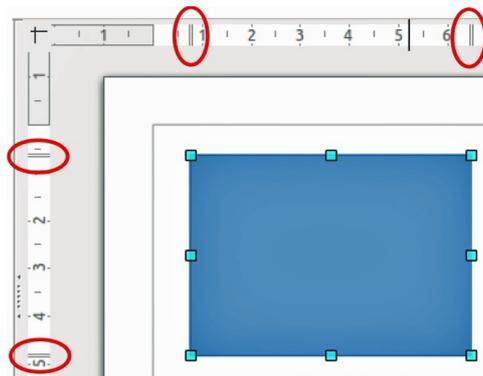
Figure 164: Rulers showing size of a selected object

To change the measurement units of the rulers, which can be defined independently, right-click on a ruler and select the measurement unit from the drop down list, as illustrated for the horizontal ruler in Figure 165.
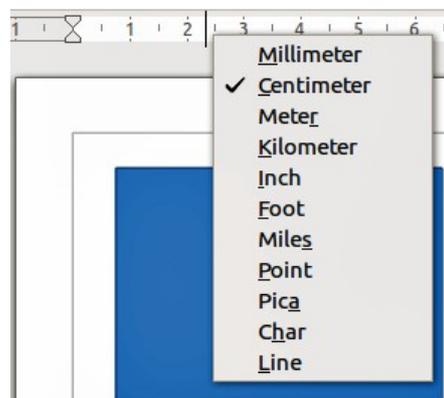
Figure 165: Ruler units

Status bar

The Status bar is located at the bottom of the workspace in all LibreOffice components. It includes several Draw-specific fields. For details on the contents and use of these fields, see *Chapter 1 Introducing LibreOffice* in this guide and in the *Draw Guide Chapter 1 Introducing Draw*.
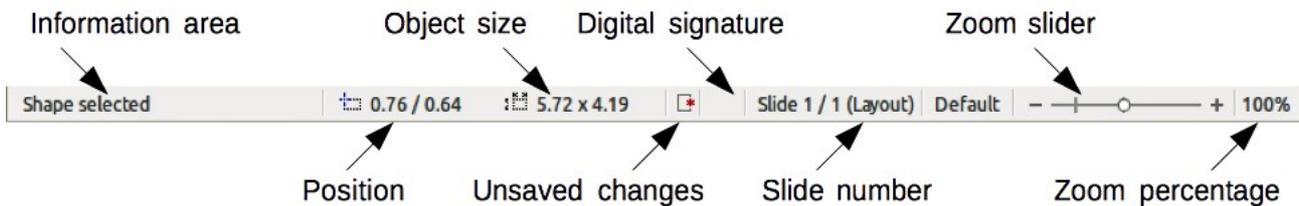
Figure 166: Draw status bar

> 🟢 **Note**
>
> The sizes are given in the current measurement unit. They might not be the same as the ruler units. The measurement unit on the Status bar is defined in **Tools > Options > LibreOffice Draw > General**, where you can also change the scale of the page.

Toolbars

To display or hide the various Draw toolbars, go to **View > Toolbars** on the Menu bar. On the menu that appears, select which toolbars you want to display. For more about working with toolbars, see *Chapter 1 Introducing LibreOffice* in this guide.

The tools available in the Draw toolbars are explained in the following sections. The appearance of the toolbar icons may vary depending on your operating system and the selection of icon size and style in **Tools > Options > LibreOffice > View**.

Standard toolbar

The **Standard** toolbar is the same for all LibreOffice components and is not described in detail in this chapter. By default, it is located just under the Menu bar.

Drawing toolbar

The **Drawing** toolbar is the most important toolbar in **Draw**. It contains all the necessary functions for drawing various geometric and freehand shapes and for organizing them on the page. By default, it is docked vertically on the left side of the Draw window.

Line and Filling toolbar

The **Line and Filling** toolbar lets you modify the main properties of a drawing object. The icons and pull-down lists vary according to the type of object selected. For example, to change the style of a line, click on the up and down arrows for Line Style and select the required style.

The functions on this toolbar are also provided in the Properties pane of the sidebar when a drawing object is selected. By default, the Line and Filling toolbar is not shown, but you can display it from the **View > Toolbars** menu.

Text Formatting toolbar

If the selected object is text, the Sidebar shows relevant formatting choices in the Properties pane. By default, the Text Formatting toolbar is not shown, but you can display it from the **View > Toolbars** menu. If you have enabled both the Line and Filling toolbar and the Text Formatting toolbar, Draw switches between them depending on what object is selected.

Options toolbar

Use the **Options** toolbar to activate or deactivate various drawing aids. By default, the Options toolbar is not shown, but you can display it from the **View > Toolbars** menu.

Choosing and defining colors

To display the **Colors** dialog (Figure 167), select **View > Toolbars > Color Bar** to display the current color palette. By default, the Color Bar is displayed below the workspace. You can hide or show it by clicking on its Hide/Show button. Here you can rapidly choose the color of objects in your drawing (lines, areas, and 3D effects). The first box corresponds to none (no color).
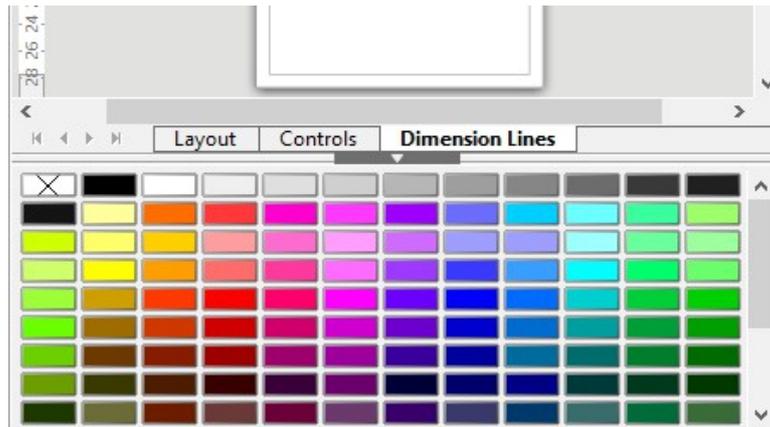
Figure 167: Color bar

You can access several specialized color palettes in Draw, as well as change individual colors to your own taste. To do this, use the Area dialog by selecting **Format > Area** on the Menu bar or clicking the *Area* icon on the Sidebar, then selecting the **Colors** tab **(**Figure 168**).**
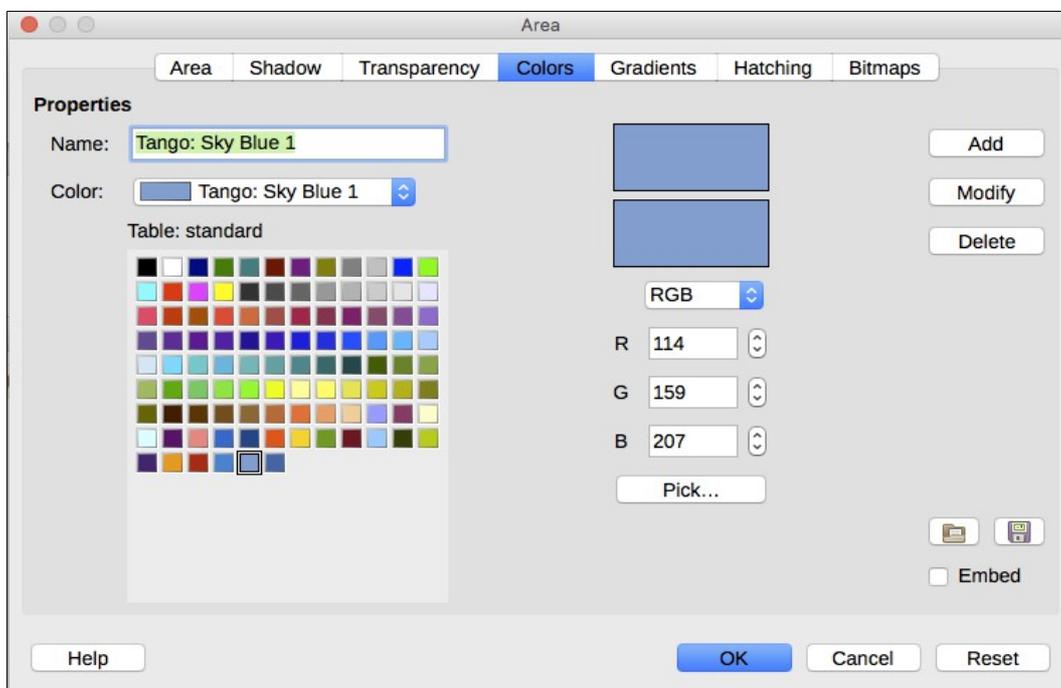
Figure 168: Area dialog – Colors page

To load another palette, click on the **Load Color List** icon . The file selector dialog asks you to choose one of the standard LibreOffice palettes (files with the file extension `*.soc`). For example, `web.soc` is a color palette that is adapted to creating drawings for placing in web pages. These colors will display correctly on workstations with screens capable of at least 256 colors.

The color selection box also lets you individually change any color by modifying the numerical values in the fields provided to the right of the color palette. You can use the color schemes known as CMYK (Cyan, Magenta, Yellow, Black) or RGB (Red, Green, Blue).

Click on the **Pick** button to open the Pick a Color dialog, where you can set individual colors. See "Color options" in *Chapter 2 Setting Up LibreOffice* in this guide.

For a more detailed description of color palettes and their options, see the *Draw Guide Chapter 10 Advanced Draw Techniques*.

Drawing basic shapes

Draw provides a wide range of shapes, located in palettes accessed from the Drawing toolbar.

This section describes only a few of the basic shapes, including text, which are treated as objects in Draw. See the *Draw Guide* for a complete description of the shapes available.

Some of the icons on the Drawing toolbar will change according to the shape that has been selected from the choices available. Icons with tool palettes available are indicated by a small triangle to the right of the icon.

 Note

> When you draw a basic shape or select one for editing, the *Info* field at the left side in the status bar changes to reflect the present action: for example *Line created*, *Text frame xxyy selected*, and so on.

Drawing a straight line

Click on the **Line** icon and place the cursor at the point where you want to start the line (Figure 169). Drag the mouse while keeping the mouse button pressed. Release the mouse button at the point where you want to end the line. A selection handle appears at each end of the line, showing that this object is the currently selected object. The selection handle at the starting point of the line is slightly larger than the other selection handle.

Keep the *Ctrl* key pressed while drawing a line to enable the end of the line to snap to the nearest grid point.

 Note

> This is the default behavior of the *Ctrl* key. However, if the **Snap to Grid** option on the **View > Grid** menu has been selected, the *Ctrl* key deactivates the snap to grid activity.

Keep the *Shift* key pressed while you draw a line to restrict the drawing angle of the line to a multiple of 45 degrees (0, 45, 90, 135, and so on).

 Note

> This is the default behavior of the *Shift* key. However, if the option *When creating or moving objects* in the *Snap position* section of **Tools > Options > LibreOffice Draw > Grid** has been selected, the action of the *Shift* key is the opposite. Lines will automatically be drawn at a multiple of 45 degrees *unless* the *Shift* key is pressed.
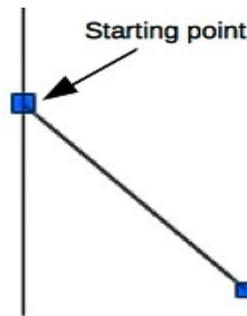
Figure 169: Drawing a straight line

Hold down the *Alt* key while drawing a line to cause the line to extend outwards symmetrically in both directions from the start point. This lets you draw lines by starting from the middle of the line.

When a line is drawn, it uses default attributes. To change any of these attributes, select a line by clicking on it, then *right-click* and select **Line** from the context menu or go to **Format > Line** on the Menu bar to open the **Line** dialog (Figure 170). Alternatively, click on the Properties icon on the Sidebar and open the Line sub-section. Line style, line width, and line color can also be changed using the controls in the Line and Filling toolbar at the top of the workspace.
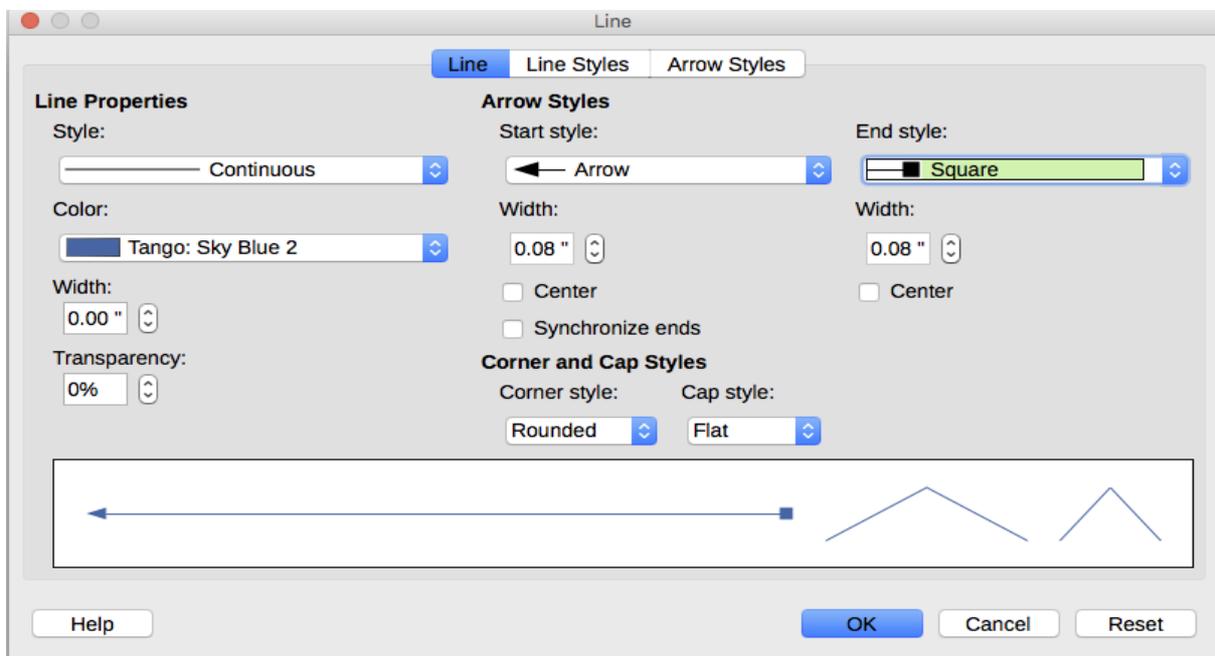
Figure 170: Line dialog

Drawing an arrow

Arrows are drawn like lines. In fact Draw classifies *arrows* as a subgroup of lines: lines with arrowheads. The information field on the status bar shows them only as lines. Click on the **Line Ends with Arrow** icon ➡ on the Drawing toolbar or the *Insert Shapes* sub-section in Sidebar Properties to draw an arrow. The arrow head is drawn at the end point of the arrow when you release the mouse button.

Choosing line endings

Several types of line endings (arrows, circles, squares, and others) are available in Draw. Click on the small triangle to the right of the **Lines and Arrows** ➡ icon on the Drawing toolbar or the *Insert Shapes* sub-section in Sidebar Properties to open a tool palette containing tools for drawing

lines and arrows. Alternatively, go to **View > Toolbars > Arrows** to open the Arrows toolbar as a floating toolbar (Figure 171). The icon for the tool used most recently will be shown on the Drawing toolbar to make it easier to use the same tool again.

After drawing the line, you can change the arrow style by clicking on the **Arrowheads** icon in the Line and Filling toolbar and select the arrow start and end options.
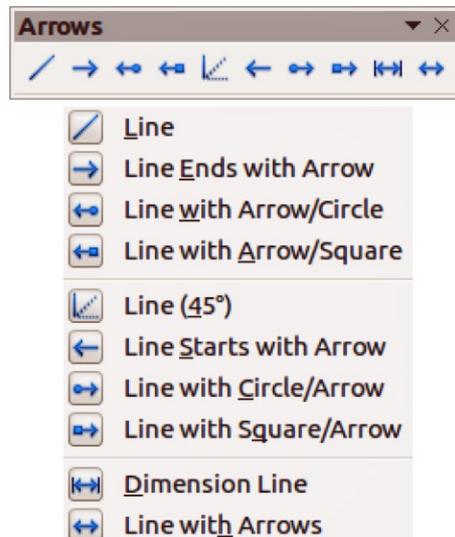
Figure 171: Arrows toolbar and available tools

Drawing rectangles or squares

Drawing a rectangle is similar to drawing a straight line. Click on the **Rectangle** icon in the Drawing toolbar or the *Insert Shapes* sub-section in Sidebar Properties. As you draw the rectangle with the mouse cursor, the rectangle appears with its bottom right corner attached to the cursor.

Squares are rectangles with all sides of equal length. To draw a square, click on the **Rectangle** icon and hold down the *Shift* key whilst you draw a square.

Note

> If the option *When creating or moving objects* has been selected in **Tools > Options > LibreOffice Draw > General**, the action of the *Shift* key is reversed. When the Rectangle tool is selected, a square is drawn. To draw a rectangle, you have to press the *Shift* key when drawing. This *Shift* key reversal also applies when drawing ellipses and circles.

To draw a rectangle or square from its center rather than the bottom right corner, position your cursor on the drawing, press the mouse button and then hold down the *Alt* key while dragging with the cursor. The rectangle or square uses the start point (where you first clicked the mouse button) as the center.

Drawing circles or ellipses

To draw an ellipse (also called an oval), click on the **Ellipse** icon on the Drawing toolbar or the *Insert Shapes* sub-section in Sidebar Properties. A circle is an ellipse with both axes the same length. To draw a circle, click on the **Ellipse** icon and hold down the *Shift* key whilst you draw a circle.

To draw an ellipse or circle from its center, position your cursor on the drawing, press the mouse button and then hold down the *Alt* key while dragging with the cursor. The ellipse or circle uses the start point (where you first clicked the mouse button) as the center.

![green ball] **Note**

> If you first press and hold down the *Ctrl* key and then click on one of the icons for Line, Rectangle, Ellipse, or Text, a standard sized object is drawn automatically in the work area; the size, shape, and color are all standard values. These attributes can be changed later, if desired. See the *Draw Guide* for more information.

Drawing curves or polygons

To draw a curve or polygon click the **Curve** icon ![curve icon] on the Drawing toolbar or the *Insert Shapes* sub-section in Sidebar Properties. Click on the triangle to the right of the icon to open the tool palette containing tools that are available for drawing curves and polygons (Figure 172). The icon for the tool used most recently will be shown on the Drawing toolbar to make it easier to use the same tool again.

If you move the mouse cursor over one of the icons, a tooltip pops up with a description of the function.
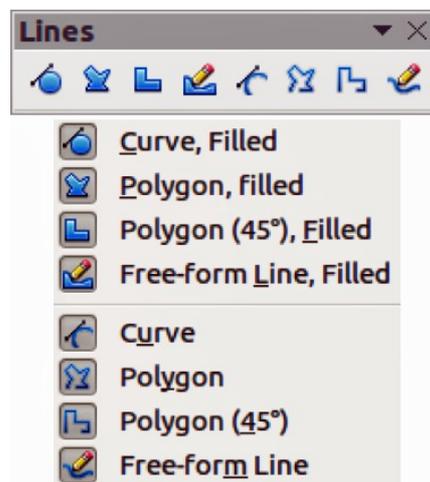
Figure 172: Curves (Lines) toolbar and available tools

![green ball] **Note**

> Hovering the mouse pointer over this icon gives a tooltip of *Curve*. If you open the floating toolbar, the title is *Lines*, as shown in Figure 172.

> Holding down the *Shift* key when drawing lines with the Curve or Polygon tools will restrict the angles between the lines to 45 or 90 degrees.

Curves

Click and hold the left mouse button to create the starting point of your curve, then, while holding down the left mouse button, drag from the starting point to draw a line. Release the left mouse button and continue to drag the cursor to bend the line into a curve. Click to set the end point of the curve and fix the line on the page. To continue with your line, drag the mouse cursor to draw a straight line. Each mouse click sets a corner point and allows you to continue drawing another straight line from the corner point. A double click ends the drawing of your line.

A filled curve automatically joins the last point to the first point to close off the figure and fills it with the current standard fill color. A curve without filling will not be closed at the end of the drawing.

Polygons

Click and draw the first line from the start point with the left mouse button held down. As soon as you release the mouse button, a line between the first and second points is drawn. Move the cursor to draw the next line. Each mouse click sets a corner point and allows you to draw another line. A double-click ends the drawing.

A filled polygon automatically joins the last point to the first point to close off the figure and fills it with the current standard fill color. A polygon without filling will not be closed at the end of the drawing.

Polygons 45°

Like ordinary polygons, these are formed from lines, but the angles between lines are restricted to 45 or 90 degrees.

Freeform lines

Using the freeform line tools is similar to drawing with a pencil on paper. Press and hold the left mouse button and drag the cursor to the line shape you require. It is not necessary to end the drawing with a double-click, just release the mouse button and the drawing is completed.

If Freeform Line Filled is selected, the end point is joined automatically to the start point and the object is filled with the appropriate color.

Adding text

To activate the text tool, click on the **Text** icon T for horizontal text or the **Vertical Text** icon for vertical script. If the Vertical Text icon is not visible, check that *Asian* has been selected in **Tools > Options > Language Settings > Languages**. You can display the Text Formatting toolbar (**View > Toolbars**) or use the Character section in the Properties pane of the Sidebar to select font type, font size, and other text properties before you start typing.

After activating the Text command, click at the location where you want to position the text. A small text frame appears, containing only the cursor. This frame can be moved like any other object. A text frame is also dynamic and grows as you enter text.

The information field in the status bar shows that you are editing text and also provides details about the current cursor location using paragraph, row, and column numbers (Figure 173).
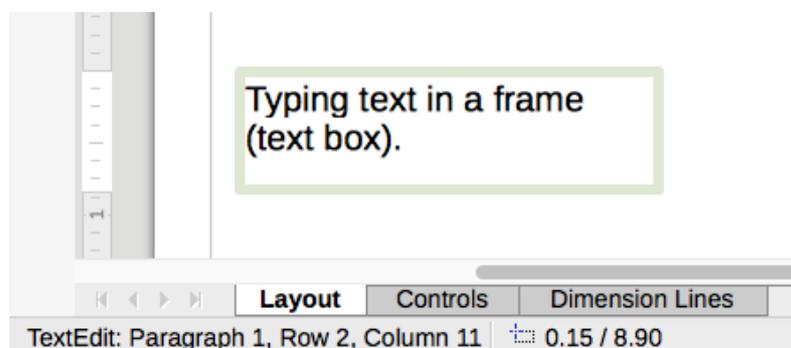
Figure 173: Text information on the Status Bar

You can insert a line break with the *Shift+Enter* key combination or start a new paragraph with the *Enter* key. The insertion of line breaks or new paragraphs does not terminate text editing or

deselect the text frame. When you have finished typing text, click outside the text frame to cancel adding or editing text.

Text properties can also be changed during text input, with any changes taking effect from the cursor position onwards. To change the properties for all of the text in the text frame, you have to highlight all text in the text frame.

You can create Graphic styles that you can reuse for other text frames. Select **Format > Styles and Formatting** or press *F11* to open the Styles and Formatting dialog, or click on the Styles and

Formatting icon ![icon] on the Sidebar. Graphic styles affect all of the text within a text frame. To only format parts of the text, use direct formatting with the Text Formatting toolbar or the *Character* and *Paragraph* sub-sections in Sidebar Properties.

Text frames can also have fill colors, shadows, and other attributes, just like any other Draw object. You can rotate the frame and write the text at any angle. These options are available by right-clicking on the text frame itself.

If you double-click on a graphic object, or press *F2* or click on the **Text** icon when an object is selected, you can add text to the graphic object. This text then becomes part of the graphic object.

A graphic object is not dynamic and does not behave like a text frame. To keep text within the borders of the object, you have to use paragraphs, line breaks, or smaller text size, increase the object size, or combine all four methods.

For more information about text, see the *Draw Guide Chapter 2 Drawing Basic Shapes and Chapter 9 Adding and Formatting Text*.

Glue points and connectors

Glue points

All Draw objects have glue points, which are not normally displayed. Glue points become visible when the **Connectors** icon ![icon] is selected on the Drawing toolbar or the *Insert Shapes* sub-section in Sidebar Properties. Most objects have four glue points (Figure 174). You can add more glue points and customize glue points, using the **Glue Points** toolbar (Figure 175). Go to **View > Toolbars > Glue Points** on to open the toolbar.

Glue points are not the same as the selection handles of an object. The handles are for moving or changing the shape of an object. Glue points are used to fix or glue a connector to an object so that when the object moves, the connector stays fixed to the object. For a more detailed description on the use of glue points, see the *Draw Guide Chapter 3 Working with Objects and Object Points* and *Chapter 8 Connections, Flowcharts and Organization Charts*.

Figure 174: Glue points
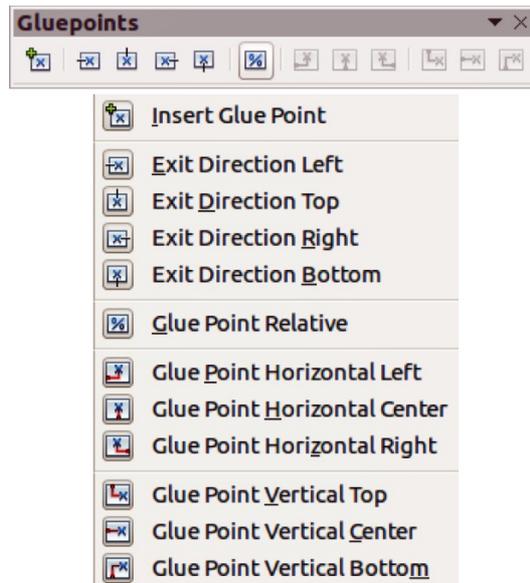
Figure 175: Glue Points toolbar and available tools

Connectors

Connectors are lines or arrows whose ends automatically snap to a glue point of an object. Connectors are especially useful in drawing organization charts, flow diagrams, and mind-maps. When objects are moved or reordered, the connectors remain attached to a glue point. Figure 176 shows an example of two objects and a connector.

Draw offers a range of different connectors and connector functions. On the Drawing toolbar or the *Insert Shapes* sub-section in Sidebar Properties, click on the triangle next to the **Connector** icon to open the **Connectors** toolbar (Figure 177). For a more detailed description of the use of connectors, see the *Draw Guide Chapter 8 Connections, Flowcharts and Organization Charts*.
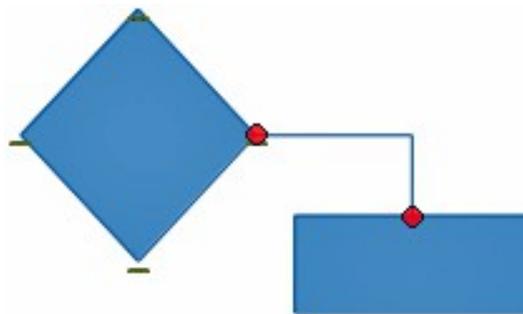
Figure 176: A connector between two objects

Figure 177: Connectors toolbar

Drawing geometric shapes

The icons for drawing geometric shapes are located on the Drawing toolbar. The geometric shapes are explained in the following sections. Clicking on the triangle to the right of the icon on the Drawing toolbar opens a floating toolbar giving access to the tools for that shape.

> ▶ **Tip**
>
> The use of these tools for geometric shapes is similar to the tool used for drawing rectangles or squares. For more information, see page 197 and the *Draw Guide Chapter 2 Drawing Basic Shapes*.

> ● **Note**
>
> The icons for geometric shapes displayed on the Drawing toolbar will change shape according to the last tool selected and used to draw an object.

Basic shapes

Click on the triangle to the right of the **Basic Shapes** icon ◆ to open the **Basic Shapes** toolbar. This toolbar also includes a rectangle tool identical to the one on the Drawing toolbar.

Figure 178: Basic Shapes toolbar

Symbol shapes

Click on the triangle to the right of the **Symbol Shapes** icon ☺ to open the **Symbol Shapes** toolbar.
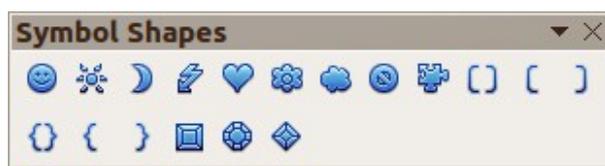
Figure 179: Symbol Shapes toolbar

Block arrows

Click on the triangle to the right of the **Block Arrows** icon ⇔ to open the **Block Arrows** toolbar.

Figure 180: Block Arrows toolbar

Flowcharts

Click on the triangle to the right of the **Flowcharts** icon ![icon] to open the **Flowchart** toolbar for symbols used in drawing flowcharts. The creation of flowcharts, organization charts, and similar planning tools is further described in the *Draw Guide Chapter 8 Connections, Flowcharts and Organization Charts*.

Figure 181: Flowcharts toolbar

Callouts

Click on the triangle to the right of the **Callouts** icon ![icon] to open the **Callouts** toolbar.

Figure 182: Callouts toolbar

Stars and banners

Click on the triangle to the right of the **Stars** icon ![icon] to open the **Stars and Banners** toolbar.

Figure 183: Stars and Banners toolbar

Note

> You can add text to all of these geometric shapes. For more information, see the *Draw Guide Chapter 2 Drawing Basic Shapes and Chapter 10 Advanced Draw Techniques*.

Selecting objects

Direct selection

The easiest way to select an object is to click directly on it. For objects that are not filled, click on the object outline to select it. One click selects; a second click deselects. To select or deselect more than one object, hold the shift button down while clicking.

Selection by framing

You can also select several objects at once by dragging the mouse cursor around the objects. This cursor dragging draws a rectangle around the objects and only objects that lie entirely within the rectangle will be selected.

To select multiple objects by framing, the **Select** icon on the Drawing toolbar must be active.

![green circle] **Note**

> When dragging the mouse cursor to select multiple objects, the selection rectangle being drawn is also known as a marquee.

Selecting hidden objects

Even if objects are located behind others and not visible, they can still be selected. Hold down the *Alt* key and click on the object at the front of where the hidden object is located, then click again to select the hidden object. If there are several hidden objects, keep holding down the *Alt key* and clicking until you reach the object you want. To cycle through the objects in reverse order, hold down the *Alt+Shift keys* and click.

When you click on the selected object, its outline will appear briefly through the objects covering it.

![green circle] **Note**

> Using the *Alt* key method works on computers using a Windows or Mac operating systems. On a computer using a Linux operating system the *Tab* key method, described below, has to be used.

To select an object that is covered by another object using the keyboard, use the *Tab* key to cycle through the objects, stopping at the object you want to select. To cycle through the objects in reverse order, press *Shift+Tab*. This is a very quick way to reach an object, but it may not be practical if there a large number of objects in a drawing.

Arranging objects

In a complex drawing, several objects may be stacked on top of one another. To rearrange the stacking order by moving an object forward or backward, select an object, click **Modify > Arrange** on the Menu bar and select **Bring Forward** or **Send Backward**. Alternatively, right-click the object, select **Arrange** from the context menu, then **Bring Forward** or **Send Backward**.

The arrange options are also available by clicking on the small triangle to the right of the **Arrange** icon on the Line and Filling toolbar. This opens the **Position** toolbar giving access to the various arrangement options (Figure 184).
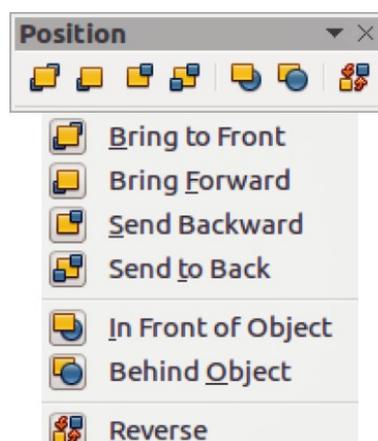
Figure 184: Position toolbar and available tools

Moving and adjusting object size

When moving an object or changing its size, check the left-hand area of the status bar at the bottom of the Draw window (Figure 185). The area on the left of the Status bar, from left to right, shows what object is selected, its position on the drawing in X/Y coordinates and dimensions of the object. The units of measurement are those selected in **Tools > Options > LibreOffice Draw > General**.

For more information on moving and adjusting object size, see the *Draw Guide Chapter 3 Working with Objects and Object Points*.
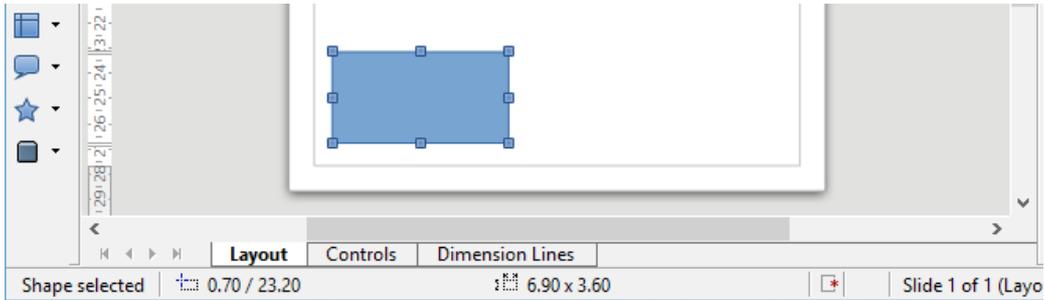
Figure 185: Left end of status bar when moving or adjusting an object

Moving objects

To move an object (or a group of objects), select it and then click within the object borders and hold down the left mouse button while dragging the mouse. During movement, the ghost image of the object appears to help with repositioning (Figure 186). To locate the object at its new location, release the mouse button.
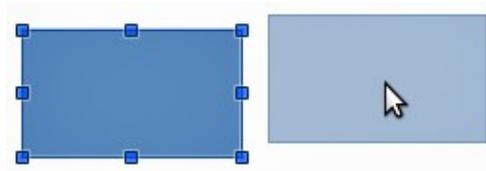
Figure 186: Moving an object

Adjusting object size

To change the size of a selected object (or a group of selected objects), move the mouse cursor to one of the selection handles. The mouse cursor will change shape to indicate the direction of movement for that selection handle. As you change the size of the object, a ghosted outline of the object appears (Figure 187). When you have reached the desired size of the object, release the mouse button.

The results depend on which selection handle you use. To resize an object along one axis, use a side handle. To resize along both axes, use a corner handle.
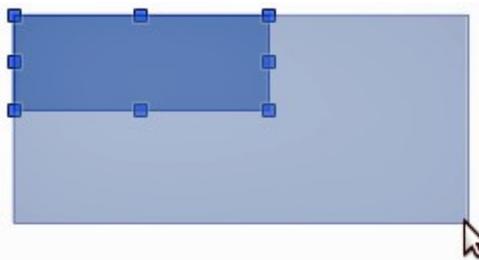
Figure 187: Adjusting object size

Note

If you press the *Shift* key while resizing an object, the change in size will be carried out symmetrically with respect to the two axes so that the aspect ratio of the object remains the same. This *Shift* key behavior works on all selection handles.

This is the default behavior of the *Shift* key. However, if *When creating or moving objects* has been selected in **Tools > Options > LibreOffice Draw > Grid**, the action of the *Shift* key is reversed and the aspect ratio will be preserved *unless* the *Shift* key is pressed.

Rotating and slanting an object

For more information on rotating and slanting an object, see the *Draw Guide Chapter 3 Working with Objects and Object Points*.

Rotating an object

To rotate an object (or a group of objects), select the object, then go to rotation mode using one of the following methods:

- Click on the Rotate icon [icon] on the Line and Filling toolbar.

- Go to **View > Toolbars > Mode** and select the Rotate icon [icon].

The selection handles will change shape and color (Figure 188). Also a rotation point will appear in the center of the object. As you move the mouse cursor over the handles, the cursor changes shape. The corner handles are for rotating an object and the top, bottom and side handles are to slant an object.
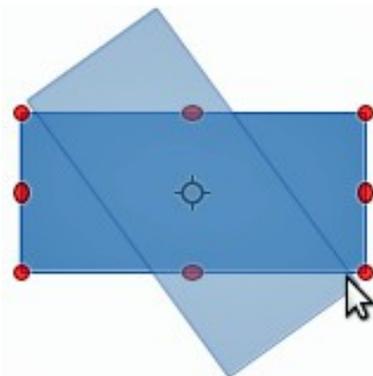
Figure 188: Rotating an object

Move the mouse cursor to one of the corner handles and it normally changes to an arc with an arrow at each end. Click and hold the mouse button, then start to move the cursor to rotate the object. A ghost image of the object being rotated appears and the current angle of rotation is shown in the status bar.

Note

Rotation works differently for 3D objects because rotation occurs in global axes and not in a single axis. See the *Draw Guide Chapter 7 Working with 3D Objects* for more information.

The rotation point is normally located at the center of an object. To change the position of the rotation point, click on the object with the mouse cursor and drag the object until the rotation point is at the desired position. This rotation point can even be outside of the object.

Note

If you press the *Shift* key while rotating an object, rotation will be restricted to 15° of movement.

This is the default behavior of the *Shift* key. However, if *When creating or moving objects* has been selected in **Tools > Options > LibreOffice Draw > Grid**, the action of the *Shift* key is reversed and rotation will be restricted to 15° of movement *unless* the *Shift* key is pressed.

Slanting an object

To slant an object, use the handles located at the midpoints on the top, bottom and sides of a selected object. The mouse cursor changes when it hovers over one of these midpoint handles. The axis used for slanting an object is the object edge directly opposite the midpoint handle being used to slant the object. This axis stays fixed in location while the other sides of the object move in relation to it as you drag the mouse cursor.

Click and hold the mouse button, then start to move the cursor to shear the object. A ghost image of the object being slanted appears (Figure 189) and the current angle of slant is shown in the status bar.

Note

If you press the *Shift* key while slanting an object, slanting will be restricted to 15° of movement. This is the default behavior of the *Shift* key. However, if *When creating or moving objects* has been selected in **Tools > Options > LibreOffice Draw > Grid**, the action of the *Shift* key is reversed and slanting will be restricted to 15° of movement *unless* the *Shift* key is pressed.
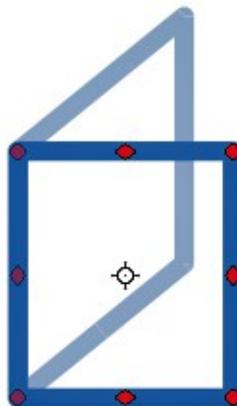
Figure 189: Slanting an object

Editing objects

To edit an object or change attributes such as color or border width, the Line and Filling toolbar, the Text Formatting toolbar, the Sidebar Properties section, or a context menu can be used. More information on editing objects and changing attributes can be found in the *Draw Guide Chapter 4 Changing Object Attributes*.

Line and Filling toolbar

By default, the **Line and Filling** toolbar in Draw is not shown. To display it, go to **View > Toolbars > Line and Filling** on the Menu bar to open the toolbar (Figure 190) at the top of the workspace. The most common object attributes can be edited using this toolbar. You can also open the Line dialog by clicking on the **Line** icon and the Area dialog by clicking on the **Area** icon for access to more formatting options.
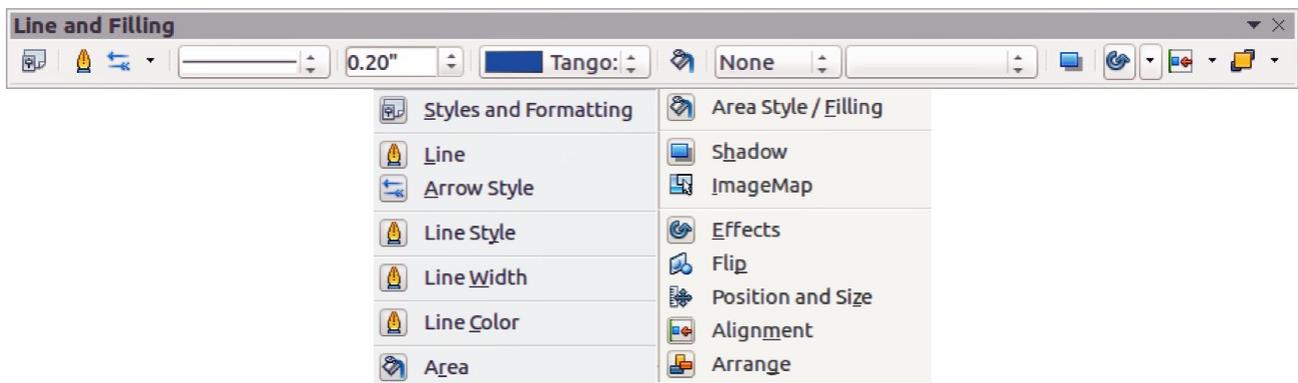
Figure 190: Line and Filling toolbar and its available tools

Text Formatting toolbar

You can open the Text Formatting toolbar by selecting **View > Toolbars > Text Formatting** on the Menu bar. The tools on this toolbar will not become active until text has been selected.
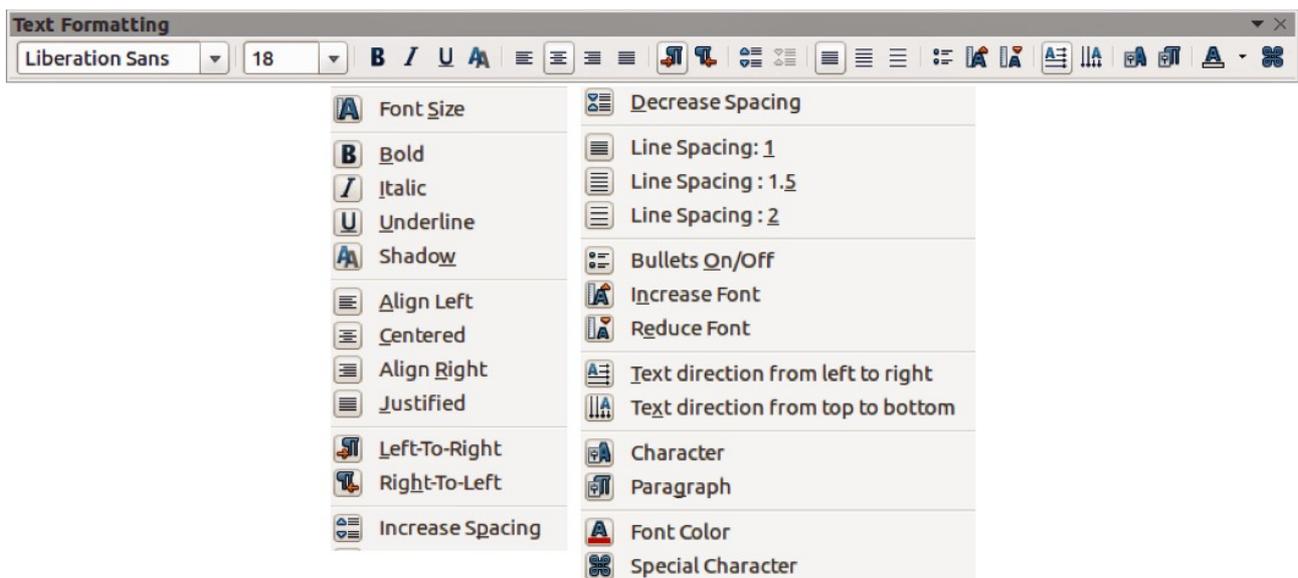
Figure 191: Text Formatting toolbar and its available tools

Sidebar Properties

When you select an object in your drawing, the sub-sections in Sidebar Properties become active (Figure 192). You can change the properties or options of an object without having to open a dialog or use any of the available tools on the various toolbars provided by Draw. To expand a sub-section, click on the plus (+) sign or arrow next to the sub-section title.
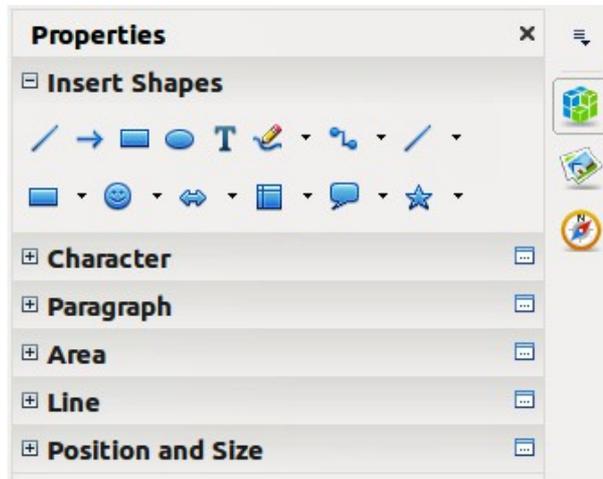
Figure 192: Sub-sections in Sidebar Properties

Context menu

When an object is selected and you right-click on the object, a context menu (Figure 193) opens that applies to the selected object. You can change object attributes without having to open a dialog. Menu entries with a small arrow on the right-hand side contain a submenu.
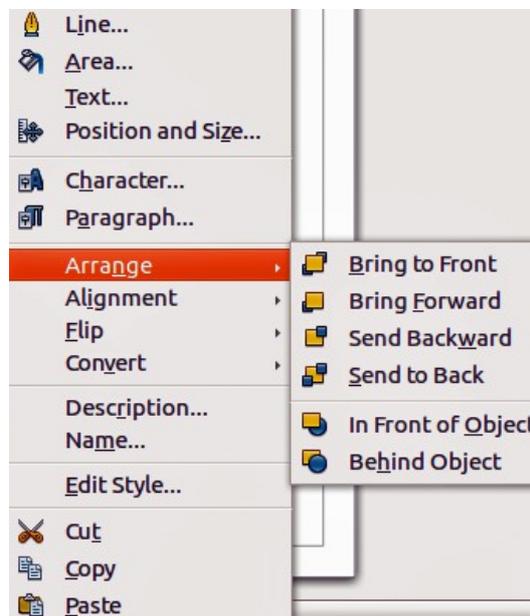
Figure 193: Example of a context menu

Formatting lines and borders

In LibreOffice the term *line* indicates both a freestanding segment (line), outer edge of a shape (border), or an arrow. In most cases the properties of the line you can modify are its style (solid, dashed, invisible, and so on), its width, and its color.

Select the line you need to format and then use the controls on the Line and Filling toolbar to change the most common options (highlighted in Figure 194).

Figure 194: Common line properties (style, color, width)

If you need to fine tune the appearance of a line, choose **Format > Line** from the Menu bar, or

right-click on the line and select **Line** from the context menu, or select the **Line** icon ⬓ from the Line and Filling toolbar. All of these methods open the **Line** dialog (Figure 171 on page 197), where you can set line properties. This dialog consists of three pages: *Line*, *Line Styles*, and *Arrow Styles*. Alternatively, use the *Line* sub-section in Sidebar Properties to change the appearance of a line.

Arrows, arrowheads, and line endings

Arrows, arrowheads, and other line endings are usually referred to as arrows and can be treated the same as lines when editing and changing attributes. Select a line and click on the **Arrow Style**

icon ⬱ from the Line and Filling toolbar to open the **Arrowheads** menu (Figure 195).
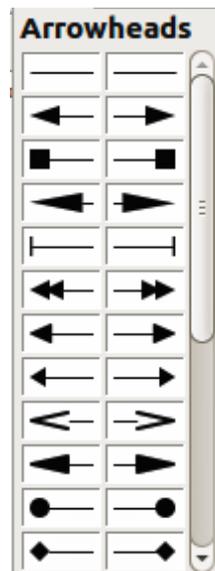
Figure 195: Arrowheads menu

Several types of arrowheads are available. Each end of a line can have a different arrowhead or no arrowhead). Arrowheads are only applicable to lines and they have no effect on the border of an object.

Formatting area fill

The term **area fill** refers to the inside of an object, which can be a uniform color, gradient, hatching pattern, or bitmap (Figure 196). An area fill can be made partly or wholly transparent. In most cases, you will choose one of the standard fill options, which are all available from the Line and Filling toolbar, or the *Area* sub-section in Sidebar Properties. You can also define your own area fills. For more information on formatting area fill, see the *Draw Guide Chapter 4 Changing Object Attributes*.
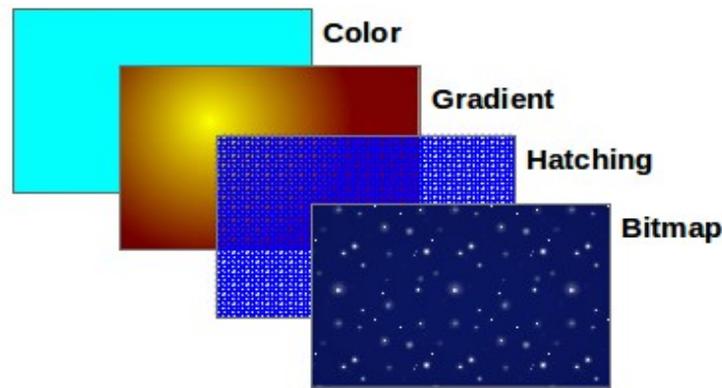
Figure 196: Different types of area fill

Using styles

Suppose that you want to apply the same area fill, line thickness, and border to a set of objects. This repetitive process can be greatly simplified by the use of styles. Styles allow you to define a format (a style) and then apply that format to multiple objects. For more information on styles, see *Chapter 3 Using Styles and Templates* in this guide, the *Writer Guide Chapter 6 Introduction to Styles*, and the *Draw Guide Chapter 4 Changing Object Attributes*.

Positioning objects

Snap function

In Draw, objects can be accurately and consistently positioned using the snap function. Grid points, snap points and lines, object frames, individual points on objects, or page edges can all be used with the snap function.

Snap function is easier to work with at the highest zoom values that are practical for your display. Two different snap functions can be used at the same time; for example snapping to a guide line and to the page edge. It is recommended, however, to activate only the functions that you really need.

For more detailed information about the snap function, see the *Draw Guide Chapter 3 Working with Objects and Object Points* and *Chapter 10 Advanced Draw Techniques*.

Snap to grid

Use Snap to grid to position an object to a grid point. Go to **View > Grid > Snap to Grid** on the Menu bar or click on the **Snap to Grid** icon on the **Options** toolbar to turn on or off the snap to grid function. If the Options toolbar is not visible, go to **View > Toolbars > Options** on the Menu bar.
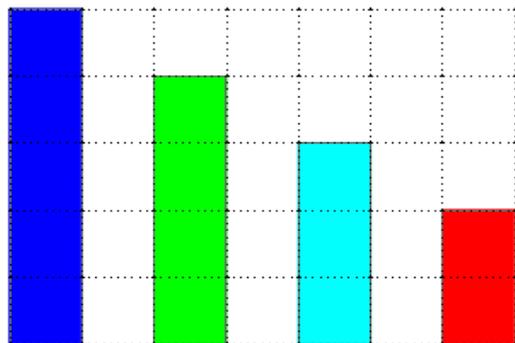
Figure 197: Positioning with snap to grid

Displaying the grid

To display the grid in Draw or to switch off the grid, go to **View > Grid > Display Grid** on the Menu bar or click on the **Display Grid** icon on the Options toolbar.

Configuring the grid

The resolution, snap and snap position of the grid points can be configured. Go to **Tools > Options > LibreOffice Draw > Grid** on the Menu bar to open the options dialog for the grid.
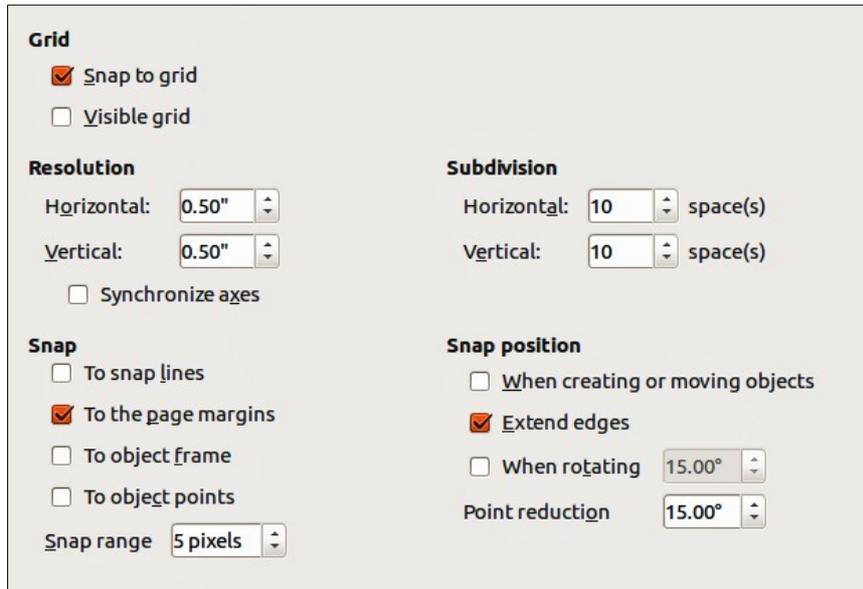
Figure 198: Configuring the grid

- Vertical and horizontal spacing of the dots in the grid. You can also change the unit of measurement used in the general Draw options by going to **Tools > Options > LibreOffice Draw > General**.

- The resolution is the size of the squares or rectangles in the grid. If the resolution is 1 cm horizontal and 2 cm vertical, the grid consists of rectangles 2 cm high and 1 cm wide.

- Subdivisions are additional points that appear along the sides of each rectangle or square in the grid. Objects can snap to subdivisions as well as to the corners of the grid.

- The pixel size of the snap area defines how close you need to bring an object to a snap point or line before it will snap to it.

- The default color of the grid is light gray. To change the color of the grid points, go to **Tools > Options > LibreOffice > Appearance** on the Menu bar.

Help lines

Draw has help lines to easily allow you to position an object using the rulers at the top and left side of the workspace. To turn on or off the help lines, go to **Tools > Options > LibreOffice Draw > View** on the Menu bar and select **Snap Lines when moving** option or go to the Options toolbar and click on the **Helplines While Moving** icon .

Applying special effects

With Draw, you can apply many special effects to objects and groups of objects. This section is an introduction to some of these effects. For more information on special effects, see the *Draw Guide Chapter 4 Changing Object Attributes.*

To access the tools used for special effects, go to **View > Toolbars > Mode** (Figure 199). **Rotate** and **Flip** can also be accessed by going to **Modify** on the Menu bar or by right-clicking on the object and using the context menu.
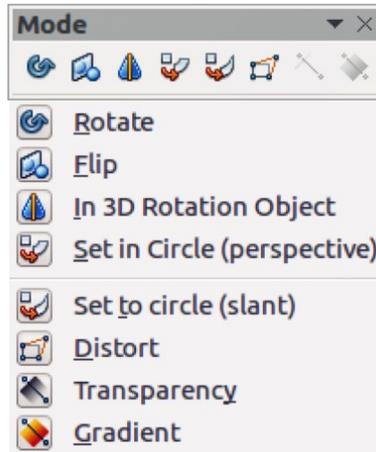
Figure 199: Mode toolbar and its available tools

Flipping objects

The quickest and easiest method to flip an object horizontally or vertically is as follows:

1) Click on a graphic object and the selection handles will show.

2) Right-click and select **Flip > Vertically** or **Horizontally**, or go to **Modify > Flip > Vertically** or **Horizontally** on the Menu bar and the selected object will be flipped to face the other direction.

However, the **Flip** tool on the Mode or Drawing toolbar can be used to give you greater control over the flipping process. Using the Flip tool allows you to change the position and angle that the object flips over and this is described in the *Draw Guide Chapter 4 Changing Object Attributes*.

Mirror copies

At the moment no mirror command exists in Draw. However, mirroring an object can be emulated by using the **Flip** tool, as described in the *Draw Guide Chapter 4 Changing Object Attributes*.

Distorting an object

Three tools on the Mode toolbar let you drag the corners and edges of an object to distort the image.

Distort tool distorts an object in perspective.

Set to Circle (slant) creates a pseudo three-dimensional effect.

Set in Circle (perspective) creates a pseudo three-dimensional effect.

In all three cases you are initially asked if you want to transform the object to a curve. This is a necessary first step, so click **Yes**. Then you can move the object handles to produce the desired effect. See the *Draw Guide Chapter 4 Changing Object Attributes* for more information on how to distort an object.

Dynamic transparency gradients

You can control transparency gradients in the same manner as color gradients. Both types of gradient can be used together. With a transparency gradient, the direction and degree of object fill color changes from opaque to transparent. In a regular gradient, the fill changes from one color to another, but the degree of transparency remains the same.

The **Transparency** and **Gradient** tools on the Mode toolbar dynamically control transparency and color gradients. See the *Draw Guide Chapter 4 Changing Object Attributes* for more information on how to create transparencies and gradients in an object.

Duplication

Duplication makes copies of an object while applying a set of changes such as color or rotation to the duplicates that are created.

1) Click on an object or group of objects and go to **Edit > Duplicate** on the Menu bar or use the keyboard shortcut *Shift+F3* to open the **Duplicate** dialog (Figure 200).
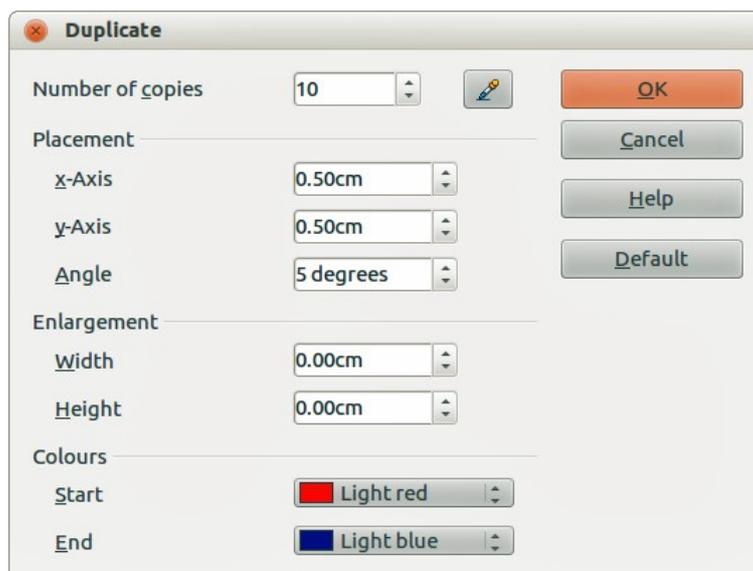
Figure 200: Duplicate dialog

2) Select the required options chosen from the options available. For example, when the options in the dialog are applied to a rectangle, they produce the result shown in Figure 201.
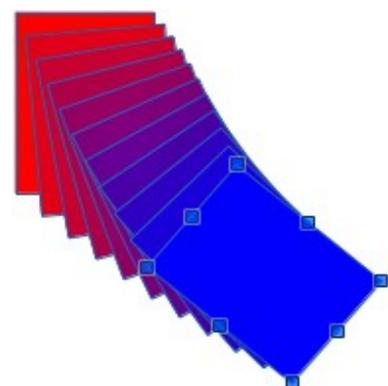
Figure 201: Duplication result

Cross-fading

Cross-fading transforms one object shape to another object shape and only works when two objects are selected.

1) Select two differently shaped objects.

2) Go to **Edit > Cross-fading** on the Menu bar to open the **Cross-fading** dialog (Figure 202).

3) Select **Increments** to determine the number of shapes between the two objects.

4) Select **Cross-fading attributes** to apply a gradual change of line and fill properties between the two objects.

5) Select **Same orientation** to apply a smooth transition between the two objects.

6) Click on **OK** and the result is a new group of objects with the first object selected as the start object and the second object selected as the end object. For example, when the options in the dialog are applied to a rectangle and a triangle, the cross fade produces the result shown in Figure 203.

Figure 202: Cross-fading dialog
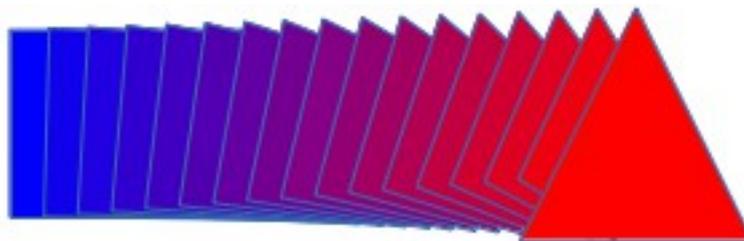
Figure 203: Cross-fading result

Combining multiple objects

Using Draw, you can group or combine objects together allowing you to treat multiple objects as one unit, or to merge objects to form a new shape. For more information, see the Draw Guide *Chapter 5 Combining Multiple Objects*.

Grouping of objects is similar to putting objects into a container. You can move the objects as a group and apply global changes to the objects within the group. A group can always be undone and the objects that make up the group can always be manipulated separately. The objects within a group also retain their own individual properties.

Combining objects is a permanent merging of objects that creates a new object. The original objects are no longer available as individual entities and cannot be edited as individual objects. Any editing of a combined object affects all the objects that were used when combination was carried out.

Grouping

Temporary grouping

A temporary grouping is when several objects are selected using the Select icon on the Drawing toolbar or using the mouse to drag a rectangle around the objects (also known as a marquee). Any changes to object parameters you carry out are applied to all of the objects within the temporary group. For example, you can rotate a temporary group of objects in its entirety.

To cancel a temporary grouping of objects simply click outside of the selection handles displayed around the objects.

Permanent grouping

A permanent grouping of objects is created after you have selected your objects and then going to **Modify > Group** on the Menu bar, or right clicking on the selection and select **Group** from the context menu, or using the keyboard shortcut *Ctrl+Shift+G*. When you deselect your selection the objects remain grouped together.

When objects are permanently grouped, any editing operations carried out on that group are applied to all members of the group. If you click on one member of the group, the whole group is selected.

You can edit an individual member of a group without ungrouping or breaking the group. Select the group and go to **Modify > Enter Group**, or right click and select **Enter Group** from the context menu, or use the keyboard shortcut *F3*, or double click on the group.

When you have finished editing an individual member of a group, go to **Modify > Exit Group**, or right click and select **Exit Group** from the context menu, or use the keyboard shortcut *Shift+F3*.

Ungrouping

To ungroup or break apart a group of objects, select the group then go to **Modify > Ungroup** on the Menu bar, or right click and select **Ungroup** from the context menu or use the keyboard shortcut C*trl+Alt+Shift+G*.

Combining objects

Combining objects is a permanent merging of objects that creates a new object. The original objects are no longer available as individual entities and cannot be edited as individual objects. Any editing of a combined object affects all the objects that were used when combination was carried out.

Select several objects, then go to **Modify > Combine** on the Menu bar, or right click on the objects and select **Combine** from the context menu, or use the keyboard shortcut *Ctrl+Shift+K*.

After you have selected your objects, the **Merge**, **Subtract**, and **Intersect** functions also become available so that you can create a new object from your selected objects. See the *Draw Guide Chapter 5 Combining Multiple Objects* for more information on these functions.

Arranging, aligning, and distributing objects

In Draw you can arrange, align, and distribute selected objects in relation to each other:

- Arrange the position of an object by moving it either forward or backward in relation to the order of objects.
- Align objects with respect to each other using **Left**, **Centered**, or **Right** for horizontal alignment and **Top**, **Center**, or **Bottom** for vertical alignment.
- Distribute objects so that the space between each of the objects is the same.

See the *Draw Guide Chapter 5 Combining Multiple Objects* for more information on arranging and aligning objects in relation to each other.

Inserting and editing pictures

Draw contains a number of functions for editing pictures or raster graphics (bitmaps); for example, photos and scanned images. This includes the import and export of graphics, and conversion from one graphic format to another.

Draw includes a large range of graphic filters so that it can read and display several graphic file formats. It also includes several tools for working with raster graphics, but does not have the same functionality as specialized graphic programs like Gimp or Adobe Photoshop. See the *Draw Guide Chapter 6 Editing Pictures* for more information.

You can add pictures from several sources:

- Directly from a scanner (**Insert > Picture > Scan**)
- Images created by another program, including photographs from a digital camera (**Insert > Picture > From File**)
- The Draw Gallery; see *Chapter 11 Graphics, the Gallery, and Fontwork* in this guide for more information.

Working with 3D objects

Although Draw does not match the functionality of the leading drawing or picture editing programs, it is capable of producing and editing very good 3D drawings.

Draw offers two types of 3D objects: *3D bodies* and *3D shapes*. Depending on which type you choose, there are different methods of editing of a 3D object (rotation, illumination, perspective, and so on) with 3D shapes being simpler to set up and edit than 3D bodies. However, 3D bodies currently allow for more customization.

See the *Draw Guide Chapter 7 Working with 3D Objects* for more information.

Exporting graphics

Draw saves graphics and images in the open source format *.odg. To save a graphic or the entire file in another format, use **File > Export** and select a format from the list displayed. The graphic formats that Draw can export and save to are listed in *Appendix B Open Source, Open Standards, OpenDocument* in this guide.

You can also export Draw files to HTML, XHTML, PDF, or Flash. PDF export for modules of LibreOffice is described in *Chapter 10 Printing, Exporting, and E-mailing* of this guide.

HTML export uses a conversion wizard that creates as many web pages as there are pages in your Draw document. You can optionally choose to display pages in frames with a navigator and set an index page. For more information, see *Chapter 12 Creating Web Pages* in this guide.

Inserting comments in a drawing

You can insert comments into your drawing in a similar process to the one used in Writer and Calc.

1) Go to **Insert > Comment** on the menu bar. A small box containing your initials appears in the upper left-hand corner of your drawing with a larger text box beside it (Figure 204). Draw automatically adds your name and the date at the bottom of this text box.

2) Type or paste your comment into the text box. You can apply basic formatting to parts of the text by selecting it, right-clicking, and choosing from the context menu. From this menu, you can also delete the current comment, all the comments from the same author, or all the comments in the document.

3) You can move the small comment markers to anywhere you wish on the drawing. Typically you might place it on or near an object you refer to in the comment.

4) To show or hide the comment markers, go to **View > Comments** on the Menu bar.
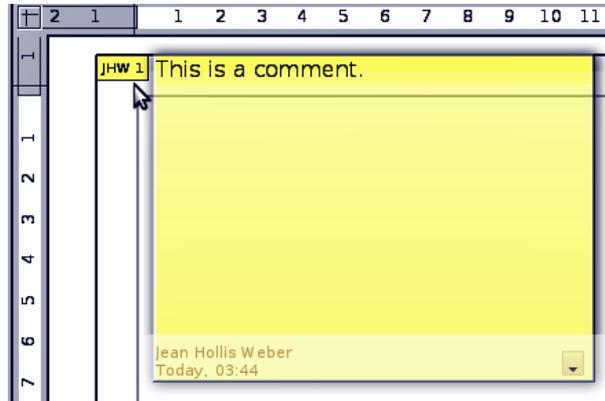
Figure 204: Inserting comments

You can go to **Tools > Options > User Data** to enter the name you want to appear in the Author field of the comment.

If more than one person edits the document, each author is automatically allocated a different background color.

Chapter 8
Getting Started with Base

Relational Databases in LibreOffice

Introduction

A data source, or database, is a collection of pieces of information that can be accessed or managed by LibreOffice. For example, a list of names and addresses is a data source that could be used for producing a mail merge letter. A shop stock list could be a data source managed through LibreOffice.

This chapter covers creating a database, showing what is contained in a database and how the different parts are used by LibreOffice.

> **Note**
>
> LibreOffice uses the terms "Data Source" and "Database" to refer to the same thing, which could be a database such as MySQL or dBase or a spreadsheet or text document holding data.

A *database* consists of a number of *fields* that contain the individual pieces of data. Each *table* of the database is a group of fields. When creating a table, you also determine the characteristics of each field within it. *Forms* are for data entry into the fields of one or more tables which have been associated with the form. They can also be used for viewing fields from one or more tables associated with the form. A *query* creates a new table from the existing tables based upon how you create the query. A *report* organizes the information from the fields of a query into a document according to your requirements.

> **Note**
>
> LibreOffice Base uses the HSQL database engine. All of the files created by this engine, including the database forms, are kept in one zipped file.

> **Caution**
>
> To use Base, you need to use a Java Runtime Environment (JRE). Please go to **Tools > Options > LibreOffice > Advanced** to select a JRE from those installed on your computer.
>
> If a JRE is not already installed, you will need to download and install one. For Windows, you need to get Java from www.java.com. For Linux, you can download it from the same website or you can use openjdk-7-jre, available from the repository of your Linux version. Mac OS X users can install a JRE from Apple Inc.

Base creates *relational databases*. This makes it fairly easy to create a database in which the fields of the database have relationships with each other.

For example: Consider a database for a library. It will contain a field for the names of the authors and another field for the names of the books. There is an obvious relationship between the authors and the books they have written. The library may contain more than one book by the same author. This is what is known as a one-to-many relationship: one author and more than one book. Most if not all the relationships in such a database are one-to-many relationships.

Consider an employment database for the same library. One of the fields contains the names of the employees while others contain the social security numbers, and other personal data. The relationship between the names and social security numbers is one-to-one: only one social security number for each name.

If you are acquainted with mathematical sets, a relational database can easily be explained in terms of sets: elements, subsets, unions, and intersections. The fields of a database are the

elements. The tables are subsets. Relationships are defined in terms of unions and intersections of the subsets (tables).

To explain how a database works and how to to use it, we will create one for automobile expenses.

Planning a database

The first step in creating a database is to ask yourself many questions. Write them down, and leave some space between the questions to write the answers later. At least some of the answers should seem obvious after you take some time to think.

You may have to go through this process a few times before everything becomes clear in your mind and on paper. Using a text document for these questions and answers makes it easier to move the questions around, add additional questions, or change the answers.

Here are some of the questions and answers I developed before I created a database for automobile expenses. I had an idea of what I wanted before I started, but as I began asking questions and listing the answers, I discovered that I needed additional tables and fields.

What are the fields going to be? My expenses divided into three broad areas: fuel purchases, maintenance, and vacations. The annual cost for the car's license plate and driver's license every four years did not fit into any of these. It will be a table of its own: license fees.

What fields fit the fuel purchases area? Date purchased, odometer reading, fuel cost, fuel quantity, and payment method for it. (Fuel economy need not be included, as it can be calculated using a query.)

What fields fit the maintenance area? Date of service, odometer reading, type of service, cost of service, and next scheduled service of this type (for example, for oil changes list when the next oil change should be). But it would be nice if there was a way to write notes. So a field for notes was added to the list.

What fields fit the vacations area? Date, odometer reading, fuel (including all the fields of the fuel table), food (including meals and snacks), motel, total tolls, and miscellaneous. Since these purchases are made by one of two bank cards or with cash, I want a field to state which payment type was used for each item.

What fields fit into the food category? Breakfast, lunch, supper, and snacks seem to fit. Do I list all the snacks individually or list the total cost for snacks for the day? I chose to divide snacks into two fields: number of snacks and total cost of snacks. I also need a payment type for each of these: breakfast, lunch, supper, and total cost of snacks.

What are the fields that are common to more than one area? Date appears in all of the areas as does odometer reading and payment type.

How will I use this information about these three fields? While on vacation, I want the expenses for each day to be listed together. The date fields suggest a relationship between the vacation table and the dates in each of these tables: fuel and food, This means that the date fields in these tables will be linked as we create the database.

The type of payment includes two bank cards and cash. So we will create a table with a field for the type of payment and use it in list boxes in the forms.

> ▶ **Tip**
>
> While we have listed fields we will create in the tables of the database, there is one more field that may be needed in a table: the field for the primary key, an identifier unique to each record. In some tables, a suitable field for the primary key has already been listed. In other tables such as the payment type, an additional field for the primary key must be created.

Creating a new database

To create a new database, select **File > New > Database** from the menu bar, or click the arrow next to the **New** icon on the Standard toolbar and select **Database** from the drop-down menu. Both methods open the Database Wizard.

On the first page of the Database Wizard, select **Create a new database** and then click **Next**.

The second page has two questions. Make sure the choice for the first question is **Yes, register the database for me** and the choice for the second question is **Open the database for editing. Click Finish**.

> ● **Note**
>
> In Writer and Calc, the *F4* key opens and closes the Data Source window containing the list of registered databases. If a database is not registered, this window will not contain it, so you can not access the database in Writer or Calc.

Save the new database with the name *Automobile*. This opens the Automobile – LibreOffice Base window. Figure 205 shows part of this window.
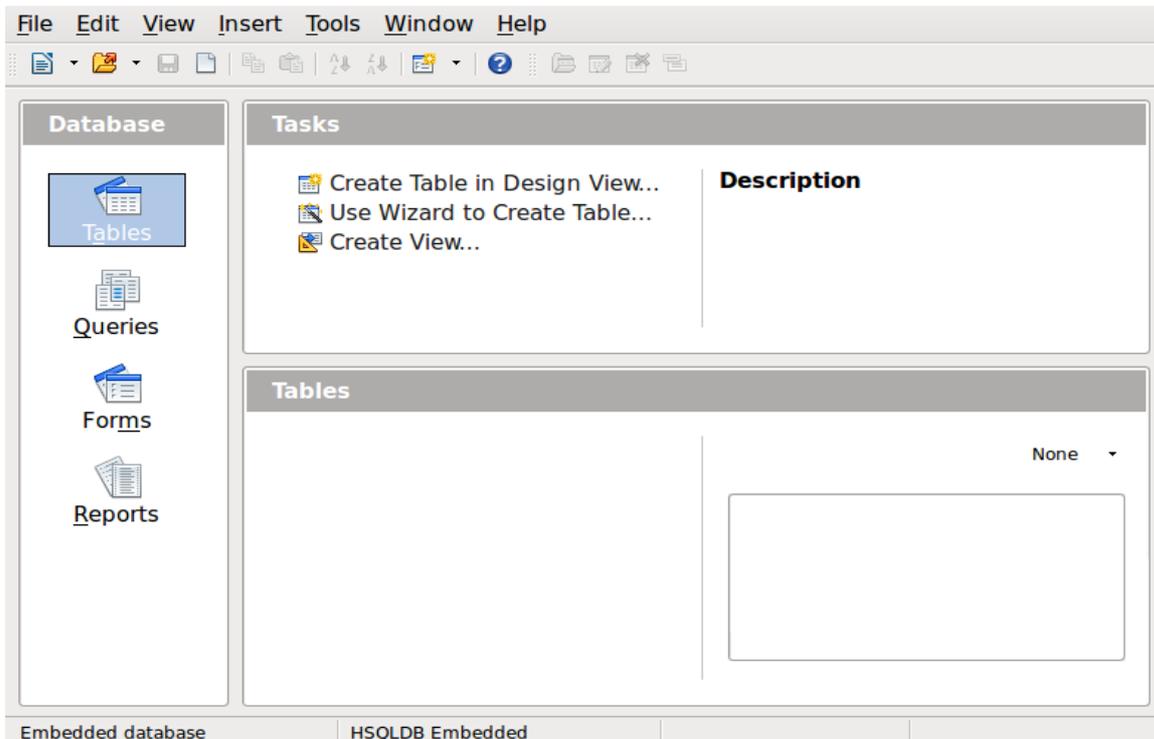
Figure 205: Creating database tables

> ▶ **Tip**
>
> Every time the *Automobile* database is opened, the *Automobile – LibreOffice Base* window opens. Changes can then be made to the database. The title for this window is always <database name> – LibreOffice Base.

> **Caution**
>
> As you create a database, you should save your work regularly. This means more than saving what you have just created. You must save the whole database as well.
>
> For example, when you create your first table, you must save it before you can close it. This makes it part of the database in memory. But it is only when you save the database file that the table is written to disk.

Creating database tables

In a database, a table stores information in a group of things we call fields. For example, a table might hold an address book, a stock list, a phone book or a price list. A database must have at least one table and may have several.

Each field of a table contains information of a single type. For example, the Phone field of an address book would only contain phone numbers. Similarly, a price list table could contain two fields: Name and Price. The Name field would contain the names of the items; the Price field would contain the amount of each item.

To work with tables, click the *Tables* icon in the *Database* list, or press *Alt+a*. The three tasks that you can perform on a table are in the *Tasks* list (see Figure 205).

Using the Wizard to create a table

Wizards are designed to do the basic work. Sometimes this is not sufficient for what we want; in those cases we can use a wizard as a starting point and then build upon what it produces.

The Table Wizard in Base contains two categories of suggested tables: business and personal. Each category contains sample tables from which to choose. Each table has a list of available fields. We can delete some of these fields and add other fields.

A field in a table is one bit of information. For example, a price list table might have one field for item name, one for the description, and a third for the price.

Since none of the fields we need for our Automobile database are contained in any of the sample wizard tables, we will create a simple table using the wizard that has nothing to do with our database. This section is merely an exercise in explaining how the Wizard works.

The Wizard permits the fields of the table to come from more than one suggested table. We will create a table with fields from three different suggested tables in the Wizard.

> **Caution**
>
> Every table requires a *Primary key field*. (What this field does will be explained later.) We will use this field to number our entries and want that number to automatically increase as we add each entry.

Click *Use Wizard to Create Table*. This opens the Table Wizard (Figure 206).

Step 1: Select fields

We will use the *CD-Collection* Sample table in the Personal category and Employees in the Business category to select the fields we need.

1) *Category*: Select *Personal*. The *Sample Tables* drop down list changes to a list of personal sample tables.

2) *Sample tables*: Select *CD-Collection*. The *Available fields* box changes to a list of available fields for this table.

3) *Selected fields*: Using the **>** button, move the following fields from the *Available fields* window to the *Selected fields* window in this order: *CollectionID, AlbumTitle, Artist, DatePurchased, Format, Notes,* and *NumberofTracks*.

4) *Selected Fields from another sample* table. Click Business as the Category. Select *Employees* from the drop down list of sample tables. Use the **>** button to move the *Photo* field from the *Available fields* window to the *Selected fields* window. It will be at the bottom of the list directly below the *NumberofTracks* field.

5) If you make a mistake in selecting fields, click on the field name in the *Selected fields* list and use the **<** button to move it from the *Selected fields* list back to the *Available fields* list.

6) If you make a mistake in the order of the selected fields, click on the field name that is in the wrong order and use the **Up** or **Down arrow** on the right side of the Selected fields list to move the field name to the correct position.

7) Click **Next**.
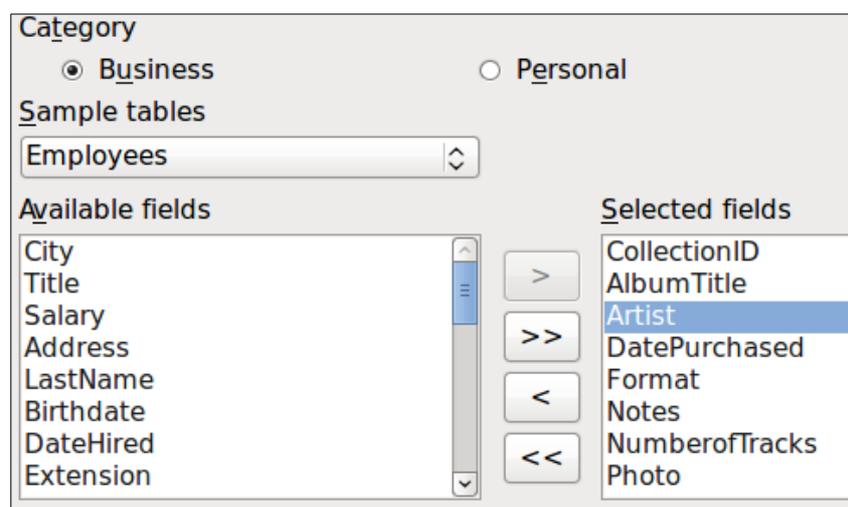
Figure 206: Selecting fields for the table

Step 2: Set field types and formats
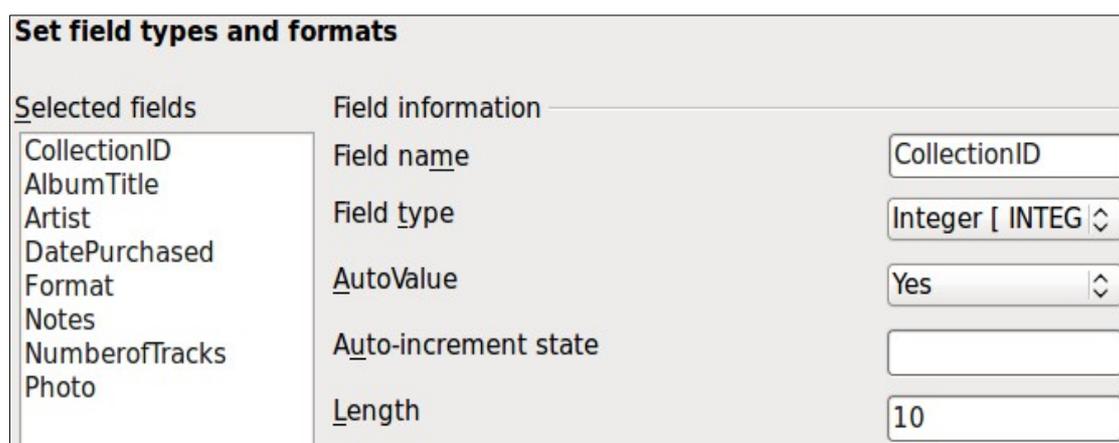
Figure 207: Changing field types

In this step you give the fields their properties. When you click a field, the information on the right changes. (See Figure 207.) You can then make changes to meet your needs. Click each field, one at a time, and make the changes listed below.

> ## 🟢 Note
> If any of these fields requires a mandatory entry, set *Entry required* to **Yes**. A blank field will then not be allowed. In general, only set *Entry required* to **Yes** if something must always be put in that field. By default, *Entry required* is set to **No**.

- *CollectionID*: Change *AutoValue* from **No** to **Yes**. (example of a mandatory entry)
- *AlbumTitle*:
    - *Entry required*: Leave *Entry required* as *No*, unless all of your music is in albums.
    - *Length*: Unless you have an album title that exceeds 100 characters counting the spaces, do not change the length.
- *Artist*: Use the Default setting. And since music always has artists, set *Entry Required* to *Yes*.
- *Date Purchased*: *Field type*: default date setting. *Entry required* should be No. (You may not know the date.)

> ## 🟢 Note
> In Base the maximum length of each field must be specified on creation. It is not easy to change this later, so if in doubt specify a greater length. Base uses VCHAR as the field format for text fields. This format uses only the actual number of characters in a field up to the limit set, so a field containing 20 characters will occupy only 20 characters even if the limit is set at 100. Two album titles containing 25 and 32 characters respectively will use space for 25 and 32 characters and not 100 characters.

- *Format*: Only change the *Entry Required* setting: from *No* to *Yes*.
- *Notes*: No changes are required.
- *NumberofTracks*: Change the *Field Type* to *Tiny Integer [TINYINT]*. Your allowable number of tracks will be 127. Small Integer [SMALLINT] would allow 32768 tracks if you needed more than 127 tracks.
- *Photo*: Use the default settings.

When you have finished, click **Next**.

> ## 🟢 Note
> Each field has a *Field Type*, which must be specified. Types include text, integer, date, and decimal. If the field is going to have general information in it (for example, a name or a description), use text. If the field will always contain a number (for example, a price), the type should be decimal or another numerical field. The wizard picks the right field type, so to get an idea of how this works, see what the wizard has chosen for different fields.

Step 3: Set primary key

1) *Create a primary key* should be checked.
2) Select option *Use an existing field as a primary key*.
3) In the *Fieldname drop down* list, select *CollectionID*.
4) Check *Auto value* if it is not already checked.
5) Click **Next**.

> **Note**
>
> A primary key uniquely identifies an item (or record) in the table. For example, you might know two people called "Randy Herring" or three people living at the same address and the database needs to distinguish between them.
>
> The simplest method is to assign a unique number to each one: number the first person 1, the second 2, and so on. Each entry has one number and every number is different, so it is easy to say "record ID 172". This is the option chosen here: CollectionID is just a number assigned automatically by Base to each record of this table.

Step 4: Create the table

1) If desired, rename the table at this point. If you rename it, make the name meaningful to you. For this example, make no changes.

2) Leave the option *Insert data immediately* checked.

3) Click **Finish** *to complete the table* wizard. Close the window created by the table wizard. You are now back to the main window of the database with the listing of the tables, queries, forms, and reports. Notice that a table named "CD-Collection" is now listed in the Tables portion of the window.

4) Click the **Save** button at the top of the main window.

Creating a table by copying an existing table

If you have a large collection of music, you might want to create a table for each type of music you have. Rather than creating each table from the wizard, you can make copies of the original table, naming each according to the type of music contained in it.

1) Click on the **Tables** icon in the Database pane to see the existing tables.

2) Right-click on the *CD-Collection* table icon. Choose **Copy** from the pop-up menu.

3) Move the mouse pointer below this table, right-click, and select **Paste**. The Copy table dialog opens.

4) Change the table name to *CD-Jazz* and click **Next**.

5) Click the **>>** button to move all the fields from the left box to the right box and click **Next**.

6) Since all the fields already have the proper Field type, no changes should be needed. However, this is the time and place to make any changes if they are needed. (See Caution below for the reason why.) Click **Create**. The new table is created.

7) Click the **Save** button at the top of the main database window.

> **Caution**
>
> Once tables have been created using the wizard, and data has been entered, editing a table should be very limited. You can add or delete fields, but adding a field requires you to enter the data for that one field for every existing record with an entry for that field.
>
> Deleting a field deletes **all the data** once contained in that field. Changing the field type of a field can lead to data being lost either partially or completely. When creating a new table, it pays to create the fields with the correct names, length, and format before you add any data.
>
> Deleting a table removes all of the data contained in every field of the table. **Unless you are sure, do not delete a table**.

Creating tables in Design View

Design View is a more advanced method for creating a new table, in which you directly enter information about each field in the table. We will use this method for the tables of our database.

🟢 **Note**

> While the *Field type* and *formatting* are different in Design View, the concepts are the same as in the Wizard.

The first table to be created is *Fuel*. Its fields are *FuelID, Date, FuelCost, FuelQuantity, Odometer*, and *PaymentType*.

1) Click Create Table in Design View (which opens the Table Design dialog).

2) *FuelID* field: Type *FuelID* as the first Field Name. Press the *Tab* key to move to the Field Type column. Select *Integer [INTEGER]* as the Field Type from the drop down list. (The default setting is Text [VARCHAR].)

▶ **Tip**

> A shortcut for selecting from the Field Type drop down list: press the key for the first letter of the choice. You can cycle through the choices for a given letter by repeatedly pressing that key.

    a) Change the Field Properties in the bottom section.
       Change *AutoValue* from *No* to *Yes*.

    b) Set *FuelID* as the *Primary key*.
       Click in the Field Name cell directly below FuelID. The dialog automatically sets FuelID as the primary key and places a key icon in front of FuelID. (Figure 208)
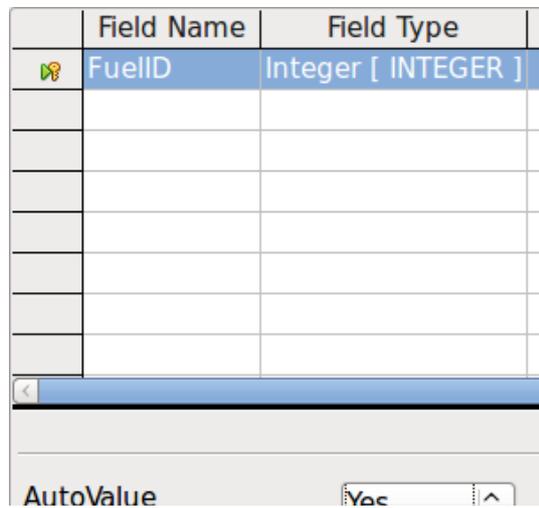
Figure 208: Defining the primary key field

▶ **Tip**

> Certain of the Integer filed types (Integer and BigInt for example) have an AutoValue Field Property. When using one of these field types, your selection of *Yes* for the AutoValue value automatically makes the field the primary key.
>
> Primary keys for any other field type must be selected by right-clicking the rectangle before the field and selecting *Primary key* in the context menu.

🟢 Note

The primary key serves only one purpose: to identify each record uniquely. Any name can be used for this field. We have used *FuelID* for convenience, so we know to which table it belongs.

3) All other fields (*Date, FuelCost, FuelQuantity, Odometer*, and *PaymentType*):

   a) Type the next field name in the Field Name column.

   b) Select the Field Type for each field.

   - For *Date* use Date[DATE]. (Press the *D* key to select it.)

   - All other fields use Number [NUMERIC]. (Press the *N* key once to select it.)

   - *PaymentType* uses Text [VARCHAR], the default setting.

   c) *FuelCost*, *FuelQuantity*, and *Odometer* need changes in the Field Properties section (Figure 209).

   - *FuelCost*: Change the Length to 5 and Decimal places to 2. Click the *Format example* ellipse button (...) (Figure 209). This opens the Field Format window (Figure 210). Use *Currency* as the Category and your currency as the Format. My currency has two decimal places. Use what is appropriate for yours.

   - *FuelQuantity*: Change *Length* to 6 and *Decimal places* to 3. (Many fuel pumps measure fuel to thousandths of a gallon in the USA, where I live.)*Odometer*: Change the *Length* to 10 and the *Decimal places* to 1.

   d) Repeat steps a) through c) until you have entered all of the fields.

	Field Name	Field Type	
🔑	FuelID	Integer [INTEGER]	
	Date	Date [DATE]	
▷	FuelCost	Number [NUMERIC	
	FuelQuantity	Number [NUMERIC	
	Odometer	Number [NUMERIC	
	PaymentType	Text [VARCHAR]	

Entry required	No
Length	5
Decimal places	2

Figure 209: Changing field properties

   e) To access additional formatting options, click the ellipse button (…) to the right of the Format example field.

   Description can be any of the categories listed in the figure below, or can be left blank.
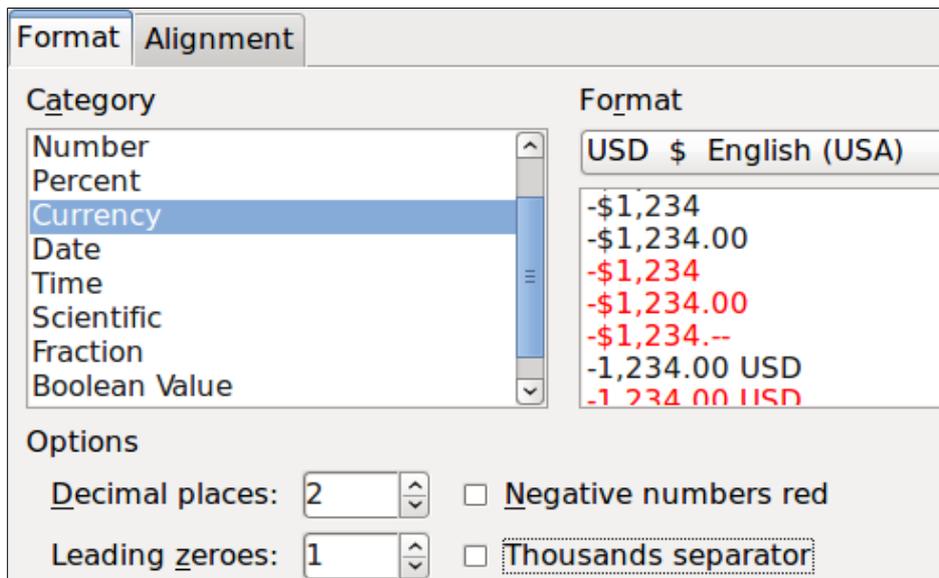
Figure 210: Format example options

4) To save and close the table, select **File > Save**. Name the table *Fuel*. Close the Fuel table.

5) In the main database window, click the **Save** button.

Figure 211: Fields in Vacations table

Follow the same steps to create the *Vacations* table. The fields, field types, and Descriptions are listed in Figure 211.

Making Date the primary key has to be done in a different way because this field's field type is *Date*, not *Integer*.

a) Right-click to the left of the field name *Date*.

b) Select Primary Key in the context menu.

Defining relationships

Now that the tables have been created, what are the relationships between our tables? This is the time to define them based upon the questions we asked and answered in the beginning.

When on vacation, we want to enter all of our expenses at once each day. Most of these expenses are in the Vacations table, but the fuel we buy is not. So we will link these two tables using the Date fields. Since the Fuel table may have more than one entry per date, this relationship between the Vacations and Fuel tables is one to many (it is designated 1:n.)

The Fuel and Maintenance tables do not really have a relationship even though they share similar fields: Date and Odometer readings.

> **Tip**
>
> As you create your own databases, you will also need to determine if tables are related and how.

1) To begin defining relationships, select **Tools > Relationships**. The Automobile – LibreOffice Base: Relation Design window opens and the Add Tables dialog pops up. (You can also open it by clicking the Add Tables icon on the Relation Design window.)

2) In the Add Tables dialog, use either of these ways to add a table to the Relation Design window:

   • Double-click the name of the table. In our case, do this for both *Vacations* and *Fuel*.

   • Or, for each table, click the name of the table and then click **Add**.

3) Click **Close** to close the Add Tables dialog when you have added the tables you want.

4) Define the relationship between the Vacations and Fuel tables: click the **New Relation** icon. This opens the Relations window (Figure 213). Our two tables are listed in the *Tables involved* section.

   a) In the *Fields involved* section, click the drop-down list under the Fuel label.

   b) Select *Date* from the Fuel table list.

   c) Click in the cell to the right of this drop-down list. This opens a drop down list for the Vacations table.

   d) Select *Date* from the Vacations table list. It should now look like Figure 213.

   e) Modify the Update options and Delete options section of the Relation window. (Figure 214)

      i) Select **Update cascade**.

      ii) Select **Delete cascade**.
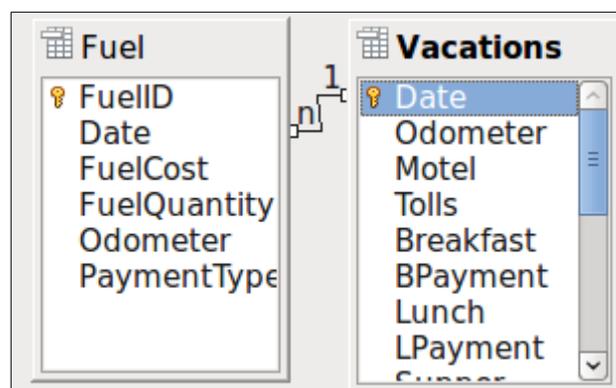
Figure 212: Designation for a 1:n relationship
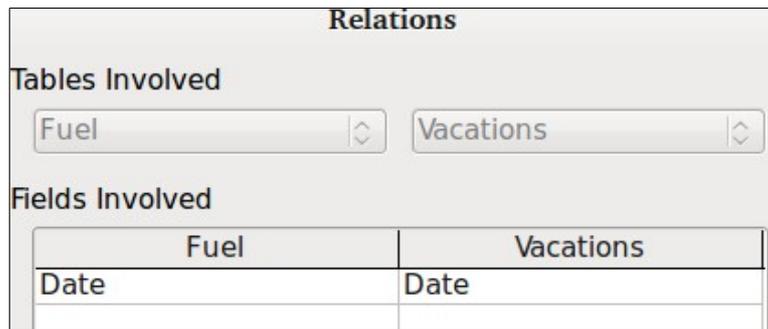
Figure 213: Selected fields in a relationship

▶ **Tip**

The primary key can contain more than one field. (Its foreign key[1] will contain the same number of fields.) If this were the case in Figure 213, the other fields of the primary field for the Fuel table would be listed under Date. The corresponding fields of the foreign key would be listed under Vacations. Detailed information about this is in the *Base Guide*.
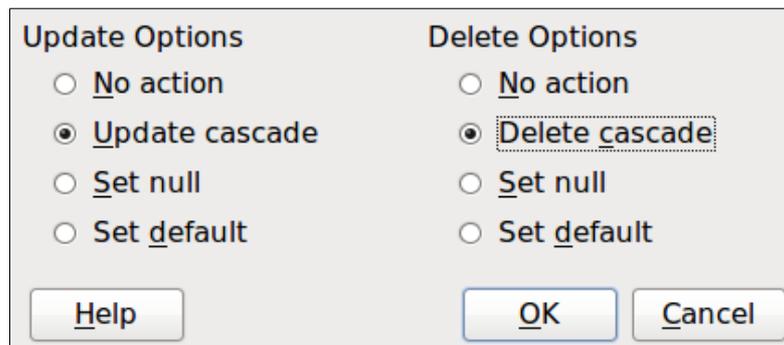
Figure 214: Update options and Delete options section

    f)   Click **OK**.

    g) Save the Relation Design dialog if the **Save** button is active.

    h) Close the Relation Design dialog.

    i)   Click the **Save** button at the top of the main database window.

While these options are not strictly necessary, they do help. Having them selected permits you to update a table that has a relationship defined with another table which has been modified. It also permits you to delete a field from the table without causing inconsistencies.

Creating a database form

Databases are used to store data. But, how is the data put into the database? Forms are used to do this. In the language of databases, a form is a front end for data entry and editing.

A simple form consists of the fields from a table (Figure 215). More complex forms can contain much more, including additional text, graphics, selection boxes, and many other elements. Figure 216 is made from the same table with a text label (Fuel Purchases), a list box placed in PaymentType, and a graphic background.

A list box is useful when a field contains a fixed choice of options. It saves you from having to type data by hand, and ensures that invalid options are not entered.

---

1   A field in a table that stores values of the primary key of records in another table.
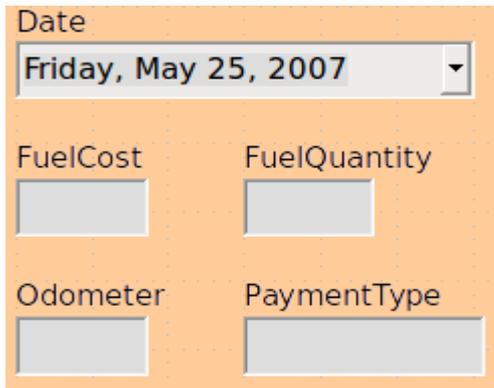
Figure 215: Fields of a simple form
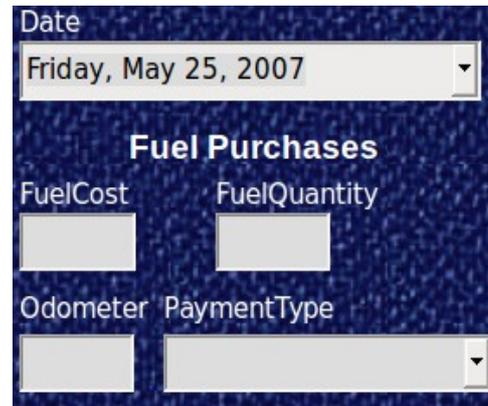
Figure 216:Simple form with additions

In our database, payments for food or fuel might be made from one of two credit cards (Dan or Kevin) or in cash, so these would be the available options for all boxes that contain payments.

To create a list box, we first need to create a small, separate table containing the options. This is then linked to the corresponding field in the form. The topic is dealt with in detail in the Base User Guide and will not be pursued further here.

Using the Wizard to create a form

We will use the Form Wizard to create a Vacations form, which will contain a form and a subform.

In the main database window (Figure 205), click the **Forms** icon in the left column. In the Tasks list, double-click **Use Wizard to Create Form** to open the Form Wizard (Figure 217). Simple forms require only some of these steps, while more complex forms may use all of them.

Step 1: Select fields

1) Under Tables or queries, select Table: Vacations. *Available fields* lists the fields for the Vacations table.

2) Click the right double arrow to move all of these fields to the *Fields in the form* list. Click **Next**.
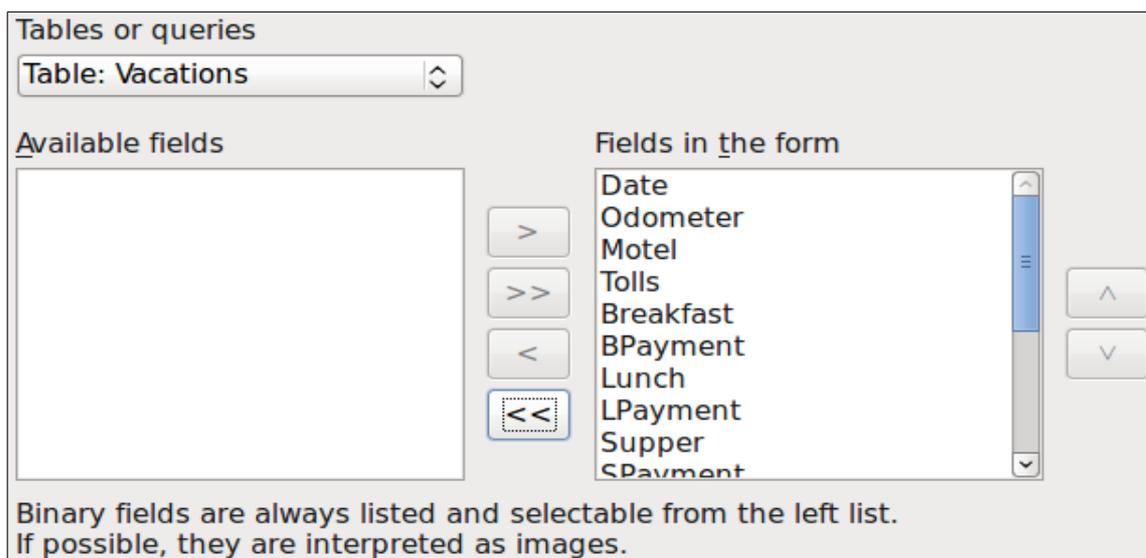
Figure 217: Form Wizard steps

Step 2: Set up a subform

Since we have already created a relationship between the Fuel and Vacations tables, we will use that relationship. If no relationship had been defined, this would need to be done in step 4.

1) Click the box labeled *Add Subform*

2) Click Subform based upon existing relation.

3) Fuel is listed as a relation we want to add. So click Fuel to highlight it, as in Figure 218. Click **Next**.

Figure 218: Adding a subform

Step 3: Add subform fields

This step is similar to step 1. The only difference is that not all of the fields will be used in the subform.

1) Fuel is preselected under *Tables or queries*.

2) Use the **>>** button to move all the fields to the right.

3) Click the *FuelID* field to highlight it.

4) Use the **<** button to move the *FuelID* to the left (Figure 219).

5) Click **Next**.
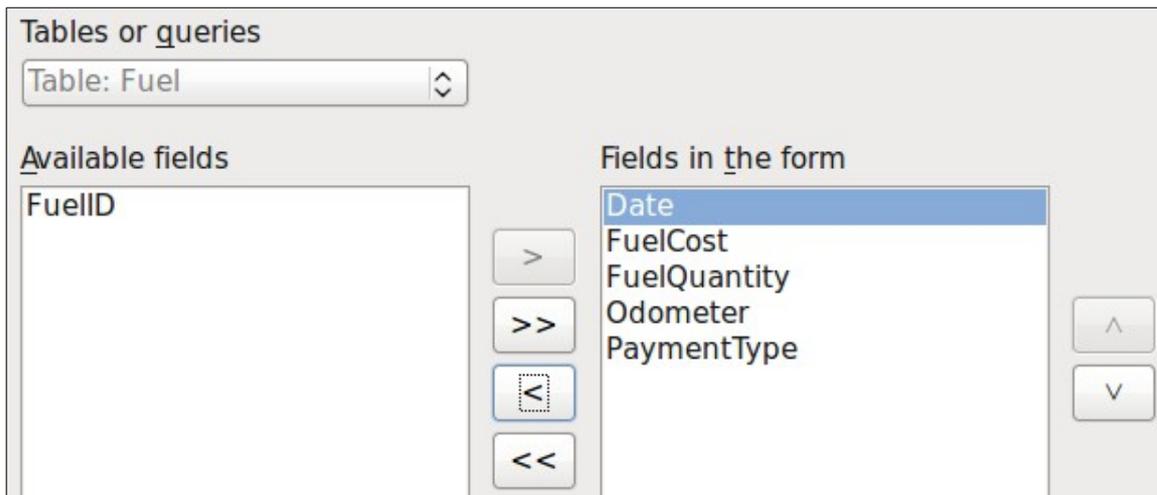
Figure 219: Selecting fields of a sub form

Step 4: Get joined fields

This step is for tables or queries for which no relationship has been defined. Because we have already defined the relationship, the wizard skips this step.

Note

It is possible to create a relationship between two tables that is based upon more than one pair of fields. How to do that and why is discussed in the *Base Guide*.

Caution

When selecting a pair of fields from two tables to use as a relationship, they have to have the same field type. That is why we used the Date field from both tables: both their field types are Date[DATE].

Whether a single pair of fields from two tables are chosen as the relationship, or two or more pairs are chosen, certain requirements must be met for the form to work.

- One of the fields from the main form must be the Primary key for its table. (Date would have to be used.)
- No field from the subform can be the Primary key for its table. (*FuelID* cannot be used.)
- Each pair of joined fields must have the same file type.

Step 5: Arrange controls

A control in a form consists of two parts: label and field. This step in creating the form determines where a control's label and field are placed relative to each other. The four choices from left to right are *Columnar left, Columnar—Labels on top*, As *Data Sheet, and In Blocks - Labels Above*.

1) Arrangement of the main form: Click the second icon (*Columnar—Labels on top*). The labels will be placed above their field.

2) Arrangement of the sub form: Click the third icon (*As Data Sheet*). (The labels are column headings and the field entries are in spreadsheet format.) Click **Next**.
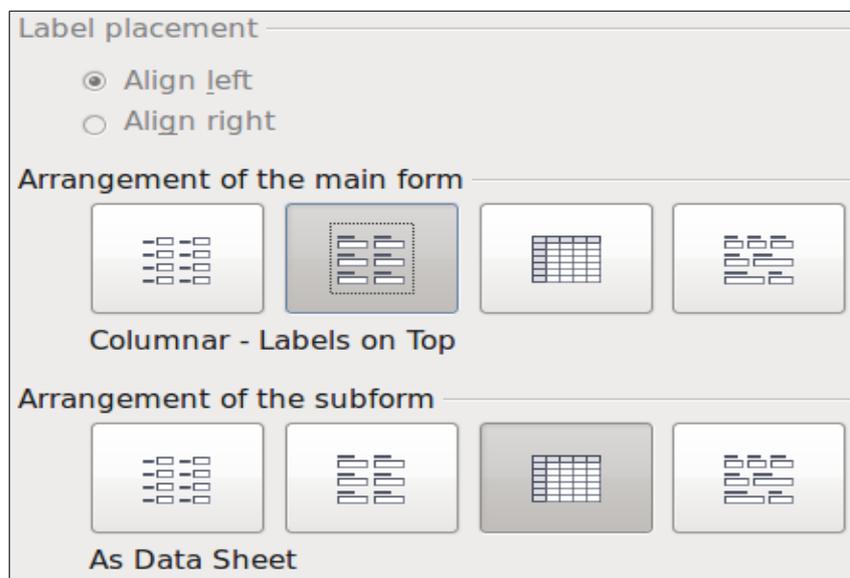
Figure 220: Arrange controls

Step 6: Set data entry

Unless you have a need for any of these entries to be checked, accept the default settings. Click **Next**.

Step 7: Apply styles

1) Select the color you want in the *Apply Styles* list. (I chose the beige which is Orange 4 in the Color table.)

2) Select the Field border you want. (I prefer the 3D look. You might want to experiment with the different possible settings.)

3) Click **Next**.

Step 8: Set name

1) Enter the name for the form. In this case, it is *Fuel*.

2) Click *Modify the form*.

3) Click **Finish**. The form opens in Edit mode.

Modifying a form

We will be moving the controls to different places in the form and changing the background to a picture. We will also modify the label for the PaymentType field as well as change the field to a list box.

First, we must decide what we want to change. The discussion will follow this ten step outline of our planned changes.

- Provide a drop-down capability for the Date field in the main form, and lengthen the field to show the day of the week, month, day, and year.

- Shorten the length of the payment fields (all fields containing the word Payment).

- Move the controls into groups: food, fuel subform, and miscellaneous.

- Change the wording of some of the labels. Some single words should be two words. Some abbreviations should be used if possible (Misc. for miscellaneous).

- Change the lengths of several fields and labels. Only Lunch, Supper, Motel, and Tolls have acceptable lengths. But for a better appearance, changes will be made to these as well.

- Lengthen the Note field vertically, add a scroll bar, and move it.

- Make changes in the Date and PaymentType columns of the subform to match the changes in the main form.

- Add headings for each group in the main form.

- Change the background to a picture, then modify some of the labels so that they can be read clearly against this background. Change the font color of the headings.

Here are some methods that we will be using in these steps. The controls in the main form consist of a label and its field. Sometimes we want to work with the entire control, sometimes with only the label or the field, and there are times when we want to work with a group of controls.

- Clicking a label or field selects the entire control. A border appears around the control with eight green handles. You can then drag and drop it where you want.
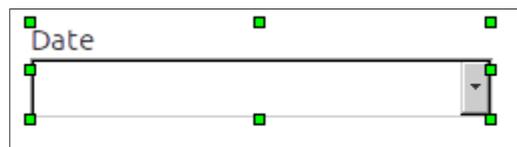
Figure 221: A selected control

- *Control+click* a label or field selects only the label or the field. You can press the *Tab* key to change the selection from the field to the label or the label to the field.
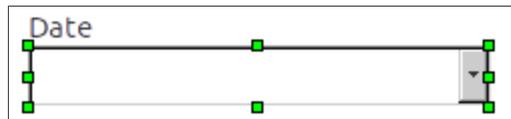
Figure 222: Selecting a field of a control

- Moving a group of controls is almost as easy as moving one of them.

    a) Click the field of the top left control to be moved, to select it.

    b) Move the cursor to just above and to the left of the selected control.

    c) Drag the cursor to the bottom right of the group of controls and release the mouse button.

As you drag the cursor, a dashed box appears, showing what is contained in your selection. Make sure it is big enough to include the entire length of all the controls.

When you release the mouse button, a border with its green handles appears around the controls you selected.
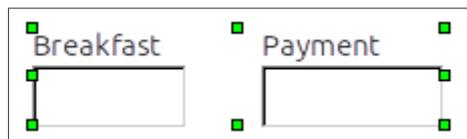
Figure 223: Selecting multiple controls

Move the cursor over one of the fields. It changes to a drag icon. Drag the group of controls to where you want them.

- Click the Tolls control to select it. Then drag it to the right close to the Lunch control.

▶ **Tip**

When either changing size or moving a control, two properties of the Form Design toolbar should be selected: *Snap to Grid*, and *Guides when Moving*. Your controls will line up better, and an outline of what you are moving moves as the cursor moves. You should also have both rulers active (**View > Ruler**).

Step 1: Change the Date field

1) *Control+click* the Date field to select it.

2) Move the cursor over the middle green handle on the right side. It should change to a double-headed arrow.

3) Hold the left mouse button down as you drag the cursor to the right until the length is 6 cm. The vertical dashed line is lined up with the 6. Release the mouse button.

4) Click the Control icon in the Form Controls toolbar. If it is not visible, select **View > Toolbars > Form Controls**. The *Properties: Date Field* window opens. Each line contains a property of the field.

Figure 224: Form Controls toolbar

– Scroll down to the *Date format* property. This is a drop down list with Standard (short) as the default setting. Click it to open the list. Select the *Standard (long)* entry.

– Scroll down to the *Drop down* property. Its default setting is No. It is also a drop down list. Click to open the list. Select *Yes*.

Step 2: Shorten the width of some fields

All of the fields with a label containing the word payment are too wide. They need to be shortened
before the controls are moved.

Figure 225: Selecting a field

1) *Control+click* the BPayment field.
2) Move the cursor over the middle green handle on the right. The cursor becomes a double-headed arrow.
3) Drag the cursor to the left until the field is 2.5 cm (1 inch) wide.
4) Repeat these steps to shorten these fields: Lpayment, SPayment, SnPayment, Mpayment, and MiscPayment.

Step 3: Move the controls to group them by category

We want to move the controls so that they look like Figure 226.

1) Click the first control you want to move. A border appears around the control with eight green handles.
2) Move the cursor over the label or field of the control. It changes shape to a drag icon.
3) Drag and drop the control to where you want it.
4) Use the same steps to move the rest of the controls to where they belong.

Figure 226a: Positioning of controls (left side of form)
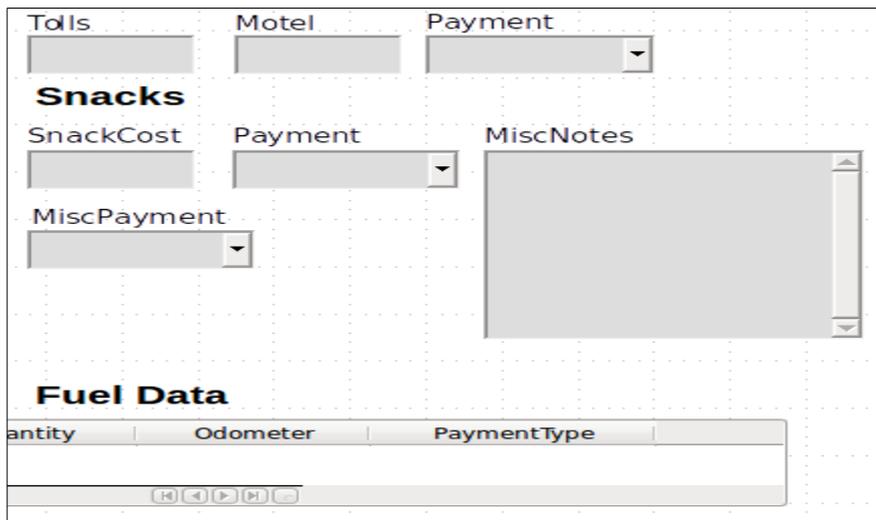
Figure 22b: Positioning of controls (right side of form)

Caution

Do not use *Control+click* when moving a field. It moves either the field or the label but not both. To move both, use a plain *mouse click* and drag to the desired spot.

Step 4: Change the label wording

Field names have been required to be single words for some time. However, the labels for the fields in a form can be more than one word. So we will change them by editing the text in the label.

1) *Control+click* the SnackNo label. Do one of the following:
   – Right-click the SnackNo label and select **Control** from the pop-up menu.
   – Or click the Control icon in the Form Control toolbar (Figure 224).

2) The dialog that opens is labeled Properties: Label Field. It contains all the properties of the selected label.
   – In the Label selection, edit the label to Snack No.
   – Close the Properties dialog.

3) Use the same procedure to change these labels as well: BPayment to Payment, LPayment to Payment, SPayment to Payment, Miscellaneous to Misc., SnackCost to Snack Cost, MPayment to Payment, MiscPayment to Misc. Payment, and MiscNotes to Misc. Notes.

Tip

You can modify all of the listings in the Properties window. For example, if you change the Alignment from Left to Center, the word or words in the label are centered within the label. When you have some time, you might want to experiment with different settings just to see the results you get.

Step 5: Change the widths of the labels and fields

We want the fields of the following controls to be 2 cm wide (0.8 inches): Breakfast, Lunch, Supper, Odometer, Snack No., Tolls, Snack Cost, Motel, and Misc. All of the payment fields were changed in step 2, but Misc. Payment needs to be changed to 3 cm (1.2 inches).

1) Right-click Breakfast and select **Position and Size**. On the Position and Size dialog, change Width to 2 cm.

2) Repeat for the other listed controls, using 3 cm for MiscPayment.

Caution

When changing the position or size of an entire control, use the Position and Size dialog or the drag and drop method.

When working with either the label or the field (but not both at the same time), you can use the Properties dialog to make these changes when you want to be exact. However, you need to be careful not to accidentally select the entire control for use with the Properties dialog or you will apply exactly the same values to both the label and field. For example, if you enter the values for a new position, both the field and the label moves to the same position and the field is positioned on top of the label. Then you will have to move each of them to where you really want them.

Tip

To open the Properties dialog, right-click a control and select **Control** from the pop-up menu. Or, you can click the Control icon in the *Form Controls* toolbar. Just be careful, and use *Control+Z* to undo any mistakes you may make. Detailed instructions on how to use the Properties window are given in the *Base Guide*.

Step 6: Change the Misc. Notes field

We want the Misc. Notes control, which has a field type of Memo, to have a vertical scroll bar for additional text space if desired.
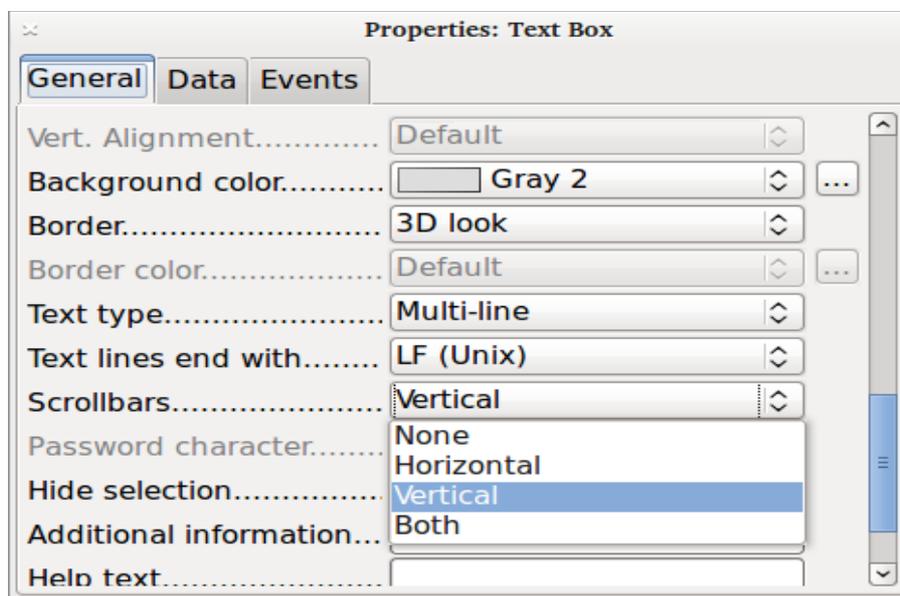
Figure 227: Scroll bar selections in the Properties window

1) *Control+click* the *Misc. Notes* field. The green handles should surround the field but not its label.

2) Click the **Control** icon to open the Properties window (Figure 227).

3) Scroll down to the *Text type* property with *single-line* as the default value.

   – Change it to Multi-line.

4) Scroll down to the *Scrollbars* setting. Change the selection from *None* to *Vertical* in this list.

5) Close the Properties window. (*Esc* key)

6) Lengthen the Misc. Notes field by moving the cursor over the middle green handle at the bottom of the field and dragging down until the length is 6 cm (2.4 inches).

Step 7: Change labels and fields in the subform

The subform is located at the bottom of the form. We want to widen the Date column, and change the label for the PaymentType column to two words.

- To widen the Date column, move the mouse pointer over the dividing line between the Date and FuelCost columns. When the pointer changes shape, click and drag to move the divider to the right.

- To change the PaymentType column:

  – Right-click the label PaymentType to open the menu.

  – Select **Column** to open the Properties dialog. In the *Label* property, change PaymentType to Payment Type.

  – Close the Properties dialog.

Step 8: Add headings to groups

This step is easier to do if you have end-of-paragraph markers visible. Choose **View > Non printing Characters** to turn them on.
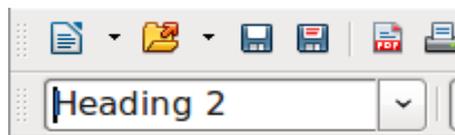
Figure 228: Apply Styles list

1) Make sure the cursor is in the upper left corner. If it is not, click in that corner to move it there.

2) Press the *Enter* key to move the cursor down to the space between the Date field and the Breakfast field.

3) Change the *Apply Styles drop down list from Default* to *Heading 2*.

4) Use the spacebar to move the cursor to where you want the heading to start.

5) Type the heading *Meals*.

6) Use the spacebar to move the cursor to the center of snack area.

7) Type the heading *Snacks*.

8) Use the *Enter* key to move the cursor between the Supper control and the subform.

9) Use the spacebar to move the cursor to the center of the subform.

10) Change the *Apply Styles* drop down list from *Default to Heading 2*.

11) Type the heading *Fuel Data*.

> **Tip**
>
> If you know how to use styles, you can open the Styles and Formatting window using *F11*. Right-clicking the Heading 2 paragraph style allows you to modify the appearance of all three headings. See Chapter 6 of the *Writer Guide* for details.

Step 9: Change the background of a form

The background for a form can be a color, or a graphic (picture). You can use any of the colors in the Color Table at **Tools > Options > LibreOffice > Colors**. If you know how to create custom colors, you can use them. You can also use a picture (graphic file) as the background.

To add a color to the form background:

1) Right-click the form to open a context menu.
2) Select **Page**.
3) Make sure the *Area* tab has been selected. (It has a white background while the other tabs have a gray one..)
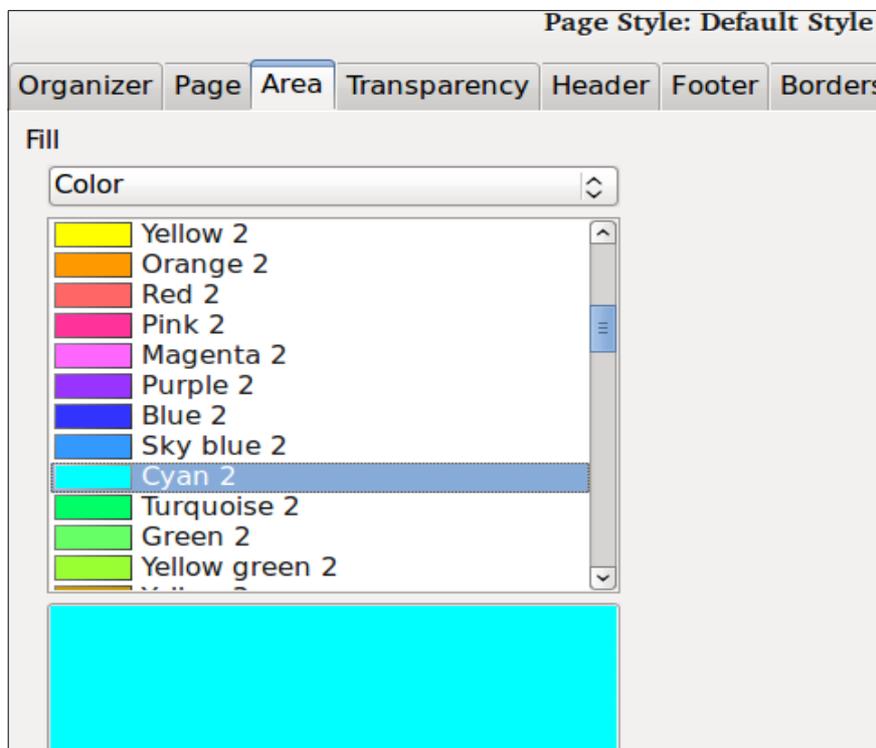
Figure 229: Page style dialog

4) Select Color from the drop-down list below *Fill*. (List contains None, Color, Gradient, Hatching, and Bitmap.)
5) Scroll down through the colors and then Click *Cyan 2*.
6) Click **Apply** to see the effects of adding the color. OR, click **OK** to close the dialog.

Create other form backgrounds:

1) Perform steps 1-3 for adding color to the background.
2) Select the type of background from the drop-down list below *Fill*.
3) Scroll down to background you want from the list of backgrounds based upon your choice in 2) above.

- *None*: No background.

- *Gradient*: You can select increments between the colors to be automatic or you can select the amount of it. Remove the check to specify the amount.

- *Hatching*: Select the hatching design. Then if you want a background color, check Background color and select the color.

- *Bitmap*: Select the bitmap design that you want.

4) Click Apply to see what your selection will look like in your form.

5) Change if necessary.

6) Click OK to select your final decision.

If you selected Bitmap and Sky from the Bitmap list, the form should look like Figure 230.

Figure 230: Finished form
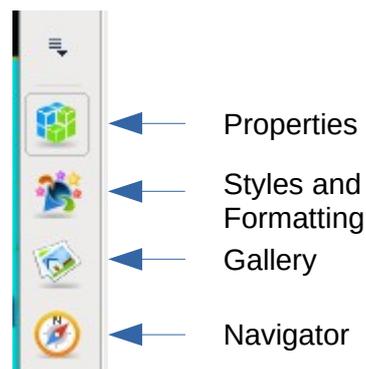
Figure 231: Often used items

![Tip icon] **Tip**

On the left side of the form window are four icons (Figure 231). You can use the Gallery as a source for backgrounds. Click it and click Backgrounds (Figure 232). Right-click the background you want to use. Select **Insert as Background > Page**.

Figure 232: Open Gallery

🟢 **Note**

> You can create custom Gradients, Hatchings, and Bitmaps using the Draw component of LibreOffice. See the *Draw Guide* for information how to do this.

Step 10: Change the tab order

The *Tab* key moves the cursor from field to field. This is much easier to do than to click each field to enter data into it. It also permits us to group our expenses into areas before we begin entering data. For example, all of our meal receipts can be grouped together as can our snacks and also our fuel purchases.

Figure 233: Form Design toolbar with Activation Order icon circled

1) *Control+click* the Date field.
2) Select **View > Toolbar > Form Design** to open this toolbar.
3) Click the **Activation Order** icon (circled).
4) Rearrange the order of the fields in the Tab Order window.
   a) Find the txtMPayment listing near the bottom of the list and click it.
   b) Click the **Move Up** button until txtPayment is just below fmtMotel.
   c) Use the same two steps to put the fields in the same order as in Figure 234. Click **OK**.
5) Save and close the form.
6) Save the database.

Creating forms and sub forms in Design View

This method requires using the *Form Controls* and *Form Design* toolbars extensively. These techniques are beyond the scope of this document. Instructions for creating forms using Design view will be described in the *Database Guide*.
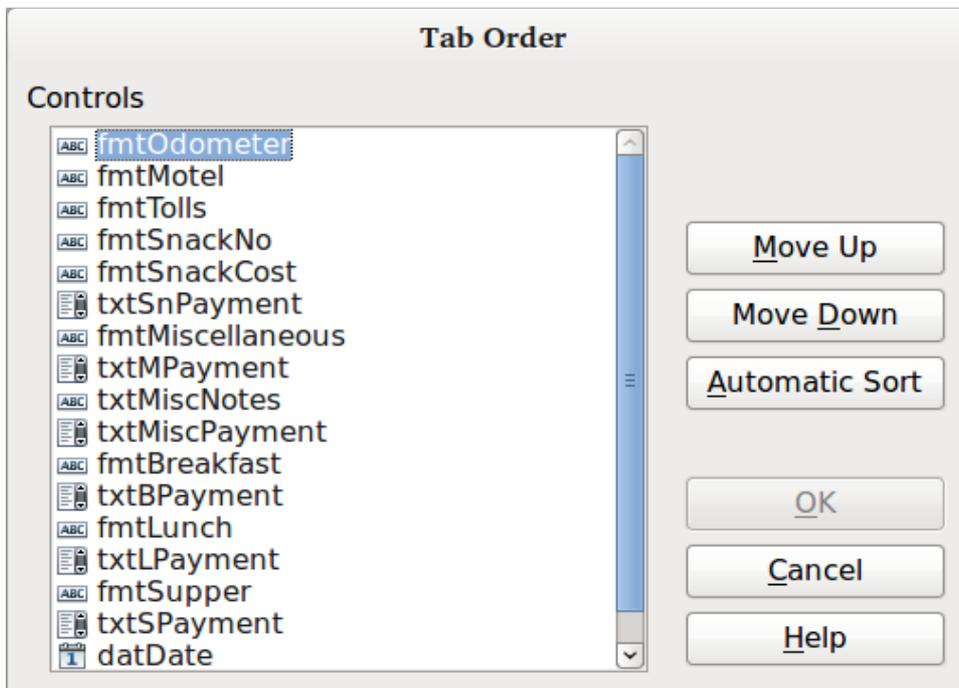
Figure 234: Tab order for the main form

Entering data in a form

Records are used to organize the data we enter into a form. They also organize the data we enter into a subform.

Different types of fields allow different methods of data entry. In many cases, more than one method can be used.

The first step to entering data in a form is to open it from the main database window (Figure 205).

1) Click the Forms icon in the *Database* list.

2) Find the form's name in the *Forms* list (Vacations).

3) Double-click the form's name.

The quickest way to enter a date in the Date field is to click the arrow that opens the drop down calendar (Figure 235). Then click the day the you want. Then press the *Tab* key to go to the Odometer field.
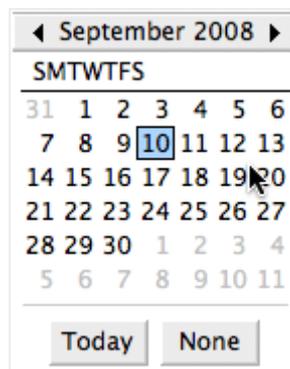
Figure 235: Calendar drop down

The Odometer, Tolls, and Motel fields are numeric fields. Enter values directly into them, or use the *up* and *down arrows*. When the value has been entered, use the *Tab* key to go to the next field.

- Clicking the *up arrow* increases the value, and the *down arrow* decreases the value by one unit.
- These two arrows only change the numerals to the left of the decimal place.
- Numerals to the right of the decimal place must be changed by deleting them and typing the desired ones.

The Motel's Payment field is a drop-down list. If, as in my case, all of the elements of the list start with different letters, typing the first letter selects the desired entry.

- If two or more elements of the list have the same first letter, repeated typing of the first letter will cycle through these elements.
- When the selection is correct, use the *Tab* key to go to the Misc. field.

The rest of the fields of the main form are either numeric fields or drop-down lists until we reach the Misc. Notes field. It is a text field. Type anything you desire in this field just as you would any simple text editor.

Note

Since the *Tab* key is used to move between fields, it can not be used in a text field. All spacing must be done by the *spacebar*. Furthermore in text fields, the *Enter* key acts only as a line break to move the cursor to the next line. While the *Enter* key will move between non-text fields, it will not do so from a text field. Use the *Tab* key instead.

If we did not have a subform for fuel data, pressing the *Tab* key in the last field would save all of the fields, clear them, and make the form ready to accept data on the second record.

Since we have a subform, using the *Tab* key places the cursor in the first Date field of the subform with the date automatically entered to match the Date field of the main form.

The FuelCost, FuelQuantity, and Odometer fields are numeric fields. The Payment field is a drop-down list. Enter the data just as you did in the main form, and use the *Tab* key to go to the next field.

When you use the *Tab* key to leave the Payment field, it goes to the Date field of the next line and automatically enters the date. Now you can enter your second set of fuel data for this day.

To move to another record when the form has a subform, click any of the fields of the main form. In this case, click the Date field of the main form. Then use the directional arrows at the bottom; from left to right: *First Record, Previous Record, Next Record*, and *Last Record*. To the right of these arrows is the *New Record* icon.

To create a new record while in last record of the main form, click either the *Next Record* icon or the *New Record* icon.

Tip

The number in the Record box is the number of the record whose data is shown in the form.

If you know the number of the record you want, you can enter it into the record box and then press *Enter* to take you to that record.

Figure 236 is a record with data inserted in its fields.

Figure 236: Sample record of the Vacation form and sub form

Creating queries

Queries are used to get specific information from a database. Query results are special tables within the database.

To demonstrate the use of queries, we will use two different methods:

- Using our CD-Collection table, we will create a list of albums by a particular artist. We will do this using the Wizard.

- The information we might want from the Fuel table includes what our fuel economy is. We will do this using Design View. (Queries that require calculations are best created with Design view.)

Using the Wizard to create a query

Queries created by the wizard provide a list or lists of information based upon what one wants to know. It is possible to obtain a single answer or multiple answers, depending upon the circumstances.

In the main database window (Figure 205), click the Queries icon in the Database section, then in the Tasks section, click *Use Wizard to Create Query*. The Query Wizard window opens (Figure 237). The information we want is what albums are by a certain musical group or individual (the album's author). We can include when each album was bought.

🟢 **Note**

When working with a query, more than one table can be used. Since different tables may contain the same field names, the format for naming fields in a query is *Table name.field name*, with a period (.) between the table name and the field name. For example, the Lunch field of the Vacation table used in a query has the name *Vacation.Lunch*.

Step 1: Select the fields

1) Select the CD-Collection table from the drop down list of tables.

2) Select fields from the CD-Collection table in the *Available fields* list.

   a) Click *Artist*, and use the **>** button to move it to the *Fields in the Query* list.

   b) Move the *AlbumTitle* and *DatePurchased* fields in the same manner.

   c) Click **Next**.

▶ **Tip**

To change the order of the fields, select the field you want to move and click the up or down arrow to the right of the *Fields in the Query* list.
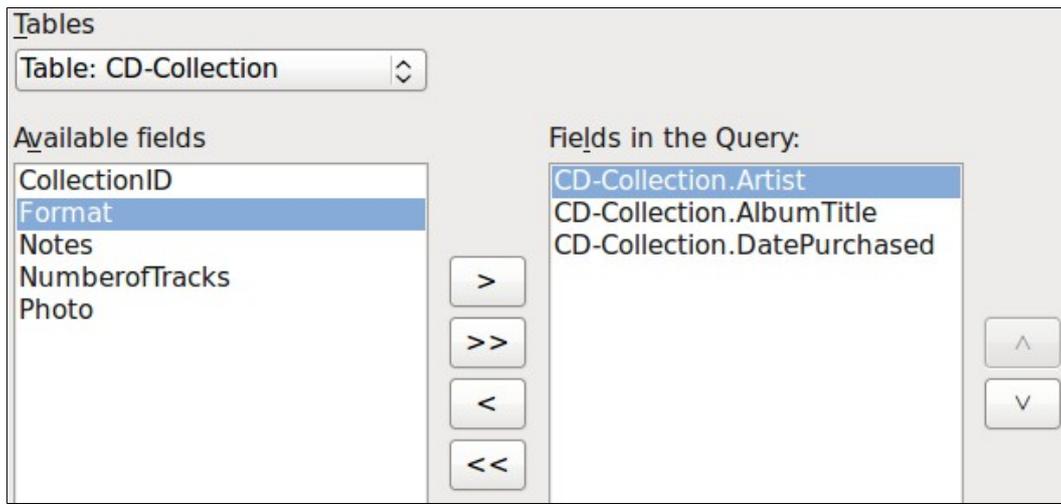
Figure 237: First page of the Query Wizard

Step 2: Select the sorting order

Up to four fields can be used to sort the information of our query. A little simple logic helps at this point. Which field is most important?

In our query, the artist is most important. The album title is less important, and the date purchased is of least importance. Of course, if we were interested in what music we bought on a given day, the date purchased would be the most important.
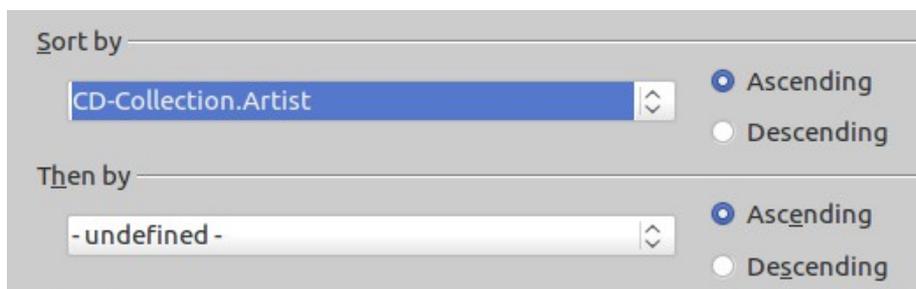
Figure 238: Sorting order page

1) Click the first *Sort by* drop down list.

   a) Click *CD-Collection.Artist* to select it.

   b) To list the artists in alphabetical order (a-z), select *Ascending* on the right.

2) Click the second *Sort by* drop down list.

   – Click *CD-Collection.ArtistTitle*. and select *Ascending*.

3) Repeat this process for *CD-Collection.DatePurchased*.

4) Click **Next**.

Step 3: Select the search conditions

The search conditions allow us to compare the name we entered with the names of the artist in our database and decide whether to include a particular artist in our query results or not.

- *is equal to*: the same as

- *is not equal to*: not the same as

- *is smaller than*: comes before

- *is greater than*: comes after

- *is equal or less than*: the same as or comes before

- *is equal or greater than*: the same as or comes after

- *like*: similar to in some way

Note

These conditions apply to numbers, letters (using alphabetical order), and dates.

1) Since we are only searching for one thing, we will use the default setting of *Match all of the following*.

2) We are looking for a particular artist, so select *CD-Collection. Artist* in the Fields list and *is equal to* as the Condition.

3) Type the name of the artist in the *Value* box. Click **Next**.

Step 4: Select type of query

We want simple information, so the default setting: *Detailed query* is what we want.

- Click **Next** at the bottom of the window.

Note

Since we have a simple query, the *Grouping* and *Grouping conditions* are not needed. Steps 5 and 6 of the wizard are skipped in our query.

Step 7: Assign aliases if desired

The fields, AlbumTitle and DatePurchased, have names made up of two words. Instead, aliases can be made containing two words each (Album Title and Date Purchased, respectively).

1) Change AlbumTitle to Album Title.

2) Change DatePurchased to Date Purchased.

3) Click **Next**.

Step 8: Overview

1) Make sure that the query conditions listed in the Overview list are the ones you wanted. (There are only two that you need to check.)

2) If something is wrong, use the **Back** button to move to the step that contains the error.

3) Then use the Next button to move to step 8.

4) Name the query (suggestion: *Query_Artists*).

5) To the right of this are two choices. Select *Display Query*.

6) Click **Finish**.

Using the Design View to create a query

Creating a query using Design View is not as difficult as it may first seem. It may take multiple steps, but each step is fairly simple.

What fuel economy is our vehicle getting (miles per gallon in the USA)? This question requires creating two queries, with the first query used as part of the second query.

Step 1: Open the first query in Design View

- Click **Create Query in Design View.**

Step 2: Add tables

1) Click *Fuel* to highlight it.

2) Click **Add**.

3) Click **Close**.
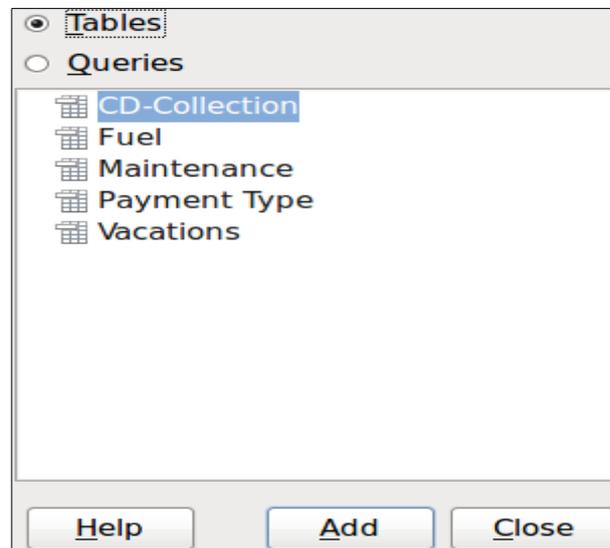
Figure 239: Add Tables or Query dialog

▶ **Tip**

Move the cursor over the bottom edge of the fuel table (Figure 240) and drag the edge to make it longer and easier to see all of the fields in the table.
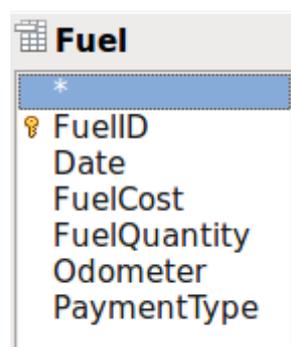
Figure 240: Fuel table in query

Step 3: Add fields to the table at the bottom

1) Double-click the *FuelID* field in the Fuel table.
2) Double-click the Odometer field.
3) Double-click the FuelQuantity field.

The table at the bottom of the query window should now have three columns.

Field	FuelID	Odometer	FuelQuantity
Alias			
Table	Fuel	Fuel	Fuel
Sort			
Visible	☑	☑	☑

Figure 241: Query table

Step 4: Set the criterion for the query

We want the query's FuelID to begin with the numeral 1.

1) Type *>0* in the Criterion cell under FuelID in the query table.
2) Click the *Run Query* icon in the Query Design toolbar. (Circled in Red.)

Figure 242: Query Design toolbar

Figure 243 contains the Fuel table with my entries. The query results based upon the Fuel table are in Figure 244.

FuelID	Date	FuelCost	FuelQuantity	Odometer
0	05/25/07	$16.00	14.690	704.2
1	05/25/07	$7.00	6.430	778.7
2	05/26/07	$20.00	19.570	1032.3
3	05/26/07	$16.00	15.150	1239.4
4	05/26/07	$16.00	15.144	1639.4
<AutoField				

Figure 243: Fuel table

FuelID	Odometer	FuelQuantity	FuelCost
1	778.7	6.430	$7.00
2	1032.3	19.570	$20.00
3	1239.4	15.150	$16.00
4	1639.4	15.144	$16.00
<AutoField			

Figure 244: Query of Fuel table

Step 5: Save and close the query

Since this query contains the final odometer reading for our calculations, name it *End-Reading* when saving it. Then close the query. Now click the Save icon in the main database window.

Step 6: Create the query to calculate the fuel economy

1) Click **Create Query in Design View** to open a new query.

2) Add the Fuel table to the query just as you did in step 2: Add tables But, **do not** close the Add Tables window.

3) Add the End-Reading query to this query.

   a) Click *Queries* to get the list of queries in the database (Figure 245).

   b) Click End-Reading.

   c) Click **Add**, and then click **Close**.
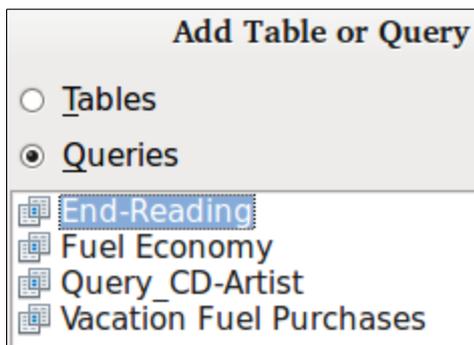
Figure 245: Selecting queries to add to another query

Step 7: Add fields to the table at the bottom of the query

We are going to calculate the fuel economy. To do this we need the FuelQuantity and distance traveled. Since the FuelQuantity we want to use is the final odometer reading, we will use the End-Reading query to get it. We will also use the Odometer field from both the Fuel table and End-Reading queries.
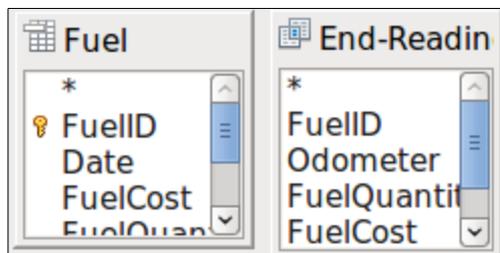
Figure 246: Tables in this query

1) Double-click *FuelQuantity* in the End-Reading query.

2) Double-click *Odometer* in the End-Reading query.

3) Double-click *Odometer* in the Fuel table.

Field	FuelQuantity	Odometer	Odometer
Alias			
Table	End-Reading	End-Reading	Fuel
Sort			
Visible	☑	☑	☑

Figure 247: Added fields to the query

Step 8: Enter the FuelID difference field

We want the difference between the FuelID value of the Fuel table and FuelID value of the End-Reading query to equal one (1).

1) Type `"End-Reading"."FuelID" - "Fuel"."FuelID"` in the field to the right of the Odometer field of the Fuel Table. (Figure 248)

2) Type `='1'` in the Criterion cell of this column.

3) Leave the *Visible* cell of this column unchecked.

4) Calculate the distance traveled:

   - Type in the Field cell.(Figure 249)
     `"End-Reading"."Odometer" - "Fuel"."Odometer"`

   - In the Alias row, type *Distance*.

   - Type `>'0'` in the Criterion cell.

5) Calculate fuel economy: Type
   `("End-Reading"."Odometer" - "Fuel"."Odometer")/"End-Reading"."FuelQuantity"`
   in the next column to the right of the word Field. (Figure 250)

6) Type `Fuel Economy` as the alias.

Figure 248: Typing in calculation of fields

Figure 249: Field for distance traveled calculations

("End-Reading"."Odometer" - "Fuel"."Odometer") / "End-Reading"."FuelQuantity"

Fuel Economy

☑

Figure 250: Fuel economy calculation field

🟢 **Note**

When entering fields for these calculations, you must follow this format: table or query name followed by a period followed by the field name. For hyphenated or multiple-word names (table or query), use double quotes around the table or query name. The query will then add the rest of the double quotes as in Figure 250.

Use the arithmetical symbol between the two. More than one calculation can be done by using parentheses to group the arithmetical operations.

Step 9: Run the query and make some modification

After we run the query to make sure it works correctly, we will hide all of the fields that we do not need.

FuelQuantity	Odometer	Odometer	Distance	Fuel Economy
6.430	704.2	778.7	74.5	11.59
19.570	778.7	1032.3	253.6	12.96
15.150	1032.3	1239.4	207.1	13.67
15.144	1239.4	1493.4	254	16.77

Figure 251: Result of running the fuel economy query

1) Click the Run Query icon in the Design Query toolbar (Figure 242). The results are in Figure 251.

   Two of the column headers are identical. By giving these two headers different aliases, we can distinguish them.

2) Add Aliases:

   Type the aliases as they are listed in Figure 252.

Field	FuelQuantity	Odometer	Odometer	"End-Reading"."Od	("End-Reading"."
Alias		Begin	End	Distance	Fuel Economy
Table	End-Reading	Fuel	End-Reading		

Figure 252: Query table with aliases added

3) Run the query again. The results are in Figure 253.

FuelQuantity	Begin	End	Distance	Fuel Economy	FuelCost	cents per mi
6.430	704.2	778.7	74.5	11.59	7.00	9
19.570	778.7	1032.3	253.6	12.96	20.00	8
15.150	1032.3	1239.4	207.1	13.67	16.00	8
15.144	1239.4	1493.4	254	16.77	16.00	6

Figure 253: Query run with aliases

Step 10: Close, save, and name the query

My suggestion for a name is *Fuel Economy*.

1) Click the Save icon.
2) Name the query.
3) Close the query.
4) Save the database file.

There are obviously other calculations that can be made in this query such as cost per distance traveled and how much of the cost belongs to each of the payment types.

🟢 **Note**

> To fully use queries requires a knowledge of set operations (*unions, intersections, and, or, complements,* or any combinations of these). Having a copy of the HSQLDB *User Guide*, available from http://hsqldb.org/doc/guide/guide.pdf, is also extremely useful.

Creating reports

Reports provide information found in the database arranged in a useful way. In this respect, they are similar to queries. They are different in that they are designed to be distributed to people. Queries are only designed to answer a question about the database. Reports are generated from the database's tables, views, or queries.

All reports are based upon a single table, view, or query, so you need first to decide what fields you want to use in the report. If you want to use fields from different tables, you must first combine these fields in a single query or view. Then you can create a report from this.

For example, a report on vacation expenses includes both fuel costs and meal costs. These values are contained in fields of two different tables: Vacations and Fuel. So this report requires you to create a query or view.

🟧 **Caution**

> Dynamic reports update only the *data* that is changed or added to a table or query. They do **not** show any modifications made to the table or query itself. For example, **after** creating the report below, open the fuel economy query created in the previous section. For the "End-Reading"."Odometer" – "Fuel."Odometer" column, change the number 1 to the number 3. The report will be identical before and after you make the change. But if you add more data to the query and run the report again, it will contain the new data. However, all data will be based upon "End-Reading"."Odometer" – "Fuel."Odometer" having the value 1. **No data** will be present in the report for which "End-Reading"."Odometer" – "Fuel."Odometer" has the value 3.

Creating a report: Example

We will create a report on vacation expenses. Certain questions need to be asked before creating the report.

- What information do we want in the report?
- How do we want the information arranged?
- What fields are required to provide this information?
- Will a query or view have to be created because these fields are in different tables?
- Are any calculations required in the data before being added to the report?

The expenses for our vacation are motel, tolls, miscellaneous, breakfast, lunch, supper, snacks, and fuel. One possible report could list the totals of each of these expense groups. Another could list the expense totals for each day of the vacation. A third could list the totals for each expense group for each type of payment. (This would let us know where the money came from to pay the expenses.) Once you create a query to do any one of these, you can create a report based upon the query.

We will create two reports, one listing the expenses each day (other than fuel) and the second listing fuel statistics. The fields we need for the first report from the Vacations table are: Date, Motel, Toll, Breakfast, Lunch, Supper, SnackCost, and Miscellaneous. This report only requires the Vacation table. Had the report listed the total expenses for each of these fields, we would have to create a query to provide us with these totals which is beyond the scope of this chapter.

The second report involves the Fuel table. Since this table includes fuel purchases at times other than during the vacation, we need to create a query that contains only the fuel purchased during vacation periods.

Report wizard vs Report Design View

1) When you open the Report Wizard, the Report Builder also opens. As you make your selections in the wizard, these appear in layout in the Report Builder. When you have finished making your selections, you save the report, name it and then close it.

2) When using Design View to create a report, you open the Report Builder to design the layout of it. (There is only one layout available when the wizard is used.)

Vacations table report

To create a new report.

1) Click the *Reports* icon in the Database list in the Automobile – LibreOffice Base window (Figure 205).

2) In the Tasks list, click **Use Wizard to Create Report**. The Report Wizard and then the Report Builder opens.

Step 1: Field selection

1) Select *Table: Vacations* in the Tables or Queries drop down list.

2) Use the **>** to move these fields from the *Available fields* list to the *Fields in report* list: Date, Motel, Tolls, Miscellaneous, Breakfast, Lunch, Supper, and SnackCost. Click **Next**.
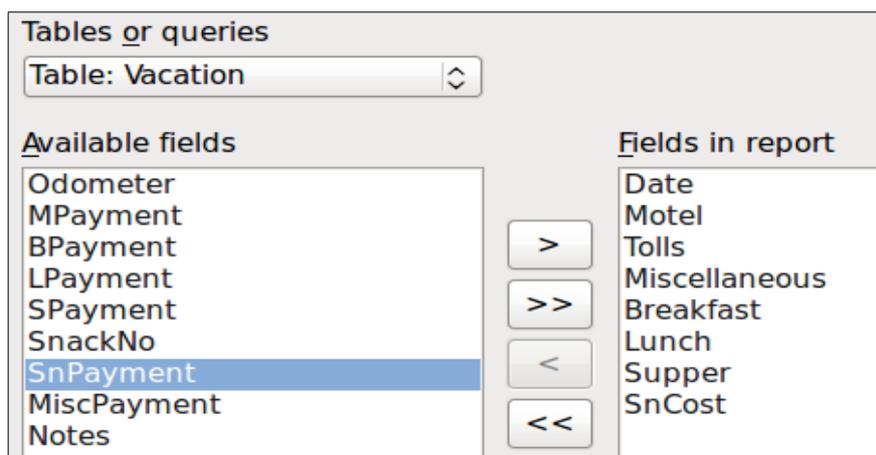
Figure 254: Adding fields to a report

Step 2: Labeling fields

Change any field labels you wish. We will shorten Miscellaneous to Misc. and make SnackCost into two words.

Figure 255: Giving aliases to fields

1) Shorten Miscellaneous to Misc.

2) Add a space to separate SnackCost into Snack Cost.

3) Click **Next**.

Step 3: Grouping

Since we are grouping by the date, use the **>** button to move the *Date* field to the Grouping list. Click **Next**.

Figure 256: Selecting fields for grouping data

Step 4: Sort options

We do not want to do any additional sorting.

• Click **Next**.

Step 5: Choose layout

Use *Columnar, three columns* for the layout.

1) Select *Columnar, three columns* for the Layout of data.

2) *Layout of headers and footers* has no possible selections.

3) Select Landscape as the Orientation for the page layout.

4) Click **Next**.

Figure 257: Report Builder template determined by the Report Wizard

Step 6: Create report

1) Label the report: Vacation Expenses.

2) Select *Dynamic report*.

3) Select *Create report now*.

4) Click **Finish**.

The report (Figure 258) has been created, but it needs some editing. The date could be formatted better, and all the numbers need to be formatted as currency. It could use a heading that includes its name, its author, and the date it was prepared. If the report had more than one page, the page numbers could be put in a footer of each page, perhaps including the total number of pages. But to do these things, you must use Report Builder.

Date	05/25/07				
Motel	50	Breakfast	11	Snack Cost	5
Tolls		Lunch	15		
Misc.	2	Supper	13		
Date	05/26/07				
Motel	48	Breakfast	13	Snack Cost	7
Tolls	4	Lunch	10		
Misc.		Supper	15		
Date	05/27/07				
Motel		Breakfast		Snack Cost	
Tolls		Lunch			
Misc.		Supper			
Date	09/10/08				
Motel		Breakfast		Snack Cost	
Tolls		Lunch			
Misc.		Supper			

Figure 258: Report without modifications

Report Builder: another way to create reports

With Report Builder, you can create complex and stylish database reports. You can define group and page headers, group and page footers, and calculation fields. Report Builder is installed with LibreOffice.

When we used the Report Wizard, we created a template in Report Builder for our report. If we edit our report, we open Report Builder with this template. By modifying the template, we also modify the report. For example, we can change the Date field's format, and it will change the format of all the dates contained in that field in the above report. Similarly, we can change the field formatting of any of the other fields and change the format everywhere that field appears in the report.

Report Builder can also create reports by itself. To do this, click **Create Report in Design View**. For instructions on how to use the Report Builder, see Chapter 6, Reports, in the *Base Handbook*.

Accessing other data sources

LibreOffice allows data sources to be accessed and then linked into LibreOffice documents. For example, a mail merge links an external document containing a list of names and addresses into a letter, with one copy of the letter being generated for each entry.

To access a data source that is not a *.odb file:

1) **File > New > Database** opens the *Database Wizard* window.

2) Select **Connect to an existing database**. Click the arrow next to the *Database type* field and select the database type from the drop down list. Click **Next.**

3) Click *Browse* and select the database. Click **Next**.

4) Accept the default settings: *Register the database for me,* and *Open the database for editing*. Click **Finish**. Name and save the database in the location of your choice.

Caution

One of the choices available when you select *Connect to an existing database* is *LDAP Address Book.* Beginning with LibreOffice 4.0.0, this option no longer works.

Accessing a spreadsheet as a data source

Accessing a spreadsheet is similar to accessing other databases:

1) Choose **File > New > Database**.

2) Select *Connect to an existing database*. Select *Spreadsheet* as the *Database type*.

3) Click **Browse** to locate the spreadsheet you want to access. If the spreadsheet is password protected, check the *Password required* box. Click **Next**.

4) If the spreadsheet requires a user's name, enter it. If a password is also required, check its box. Click **Next**.

Note

Using this method of accessing a spreadsheet, you cannot change anything in the spreadsheet. You can only view the contents of the spreadsheet, run queries, and create reports based upon the data already entered into the spreadsheet.

All changes in a spreadsheet must be made in the spreadsheet itself, using Calc. After modifying the spreadsheet and saving it, you will see the changes in the database. If you create and save an additional sheet in your spreadsheet, the database will have a new table the next time you access it.

Registering *.odb databases

Databases created by LibreOffice are in the *.odb (OpenDocument Base) format. Other programs can also produce databases in this format. Registering a *.odb database is simple:

1) Choose **Tools > Options > LibreOffice Base > Databases**.

2) Under *Registered databases*, click **New**.

3) Browse to where the database is located.

4) Make sure the registered name is correct.

5) Click **OK**.

Note

Sometimes when updating LibreOffice to a newer version, your list of registered database files disappears. When that happens, you need to use these steps to register your database files with your latest version of LibreOffice.

Using data sources in LibreOffice

Having registered the data source, whether a spreadsheet, text document, external database or other accepted data source, you can use it in other LibreOffice components including Writer and Calc.

Viewing data sources

Open a document in Writer or Calc. To view the data sources available, press *F4* or select **View > Data Sources** from the pull-down menu. This brings up a list of registered databases, which will include Bibliography and any other database registered, such as the Automobile database created earlier in this chapter.

To view each database, click on the arrow to the left of the database's name (see Figure 259). This brings up Queries and Tables. Click on the ▌▶ next to Tables to view the individual tables created. Now click on a table to see all the records held in it.
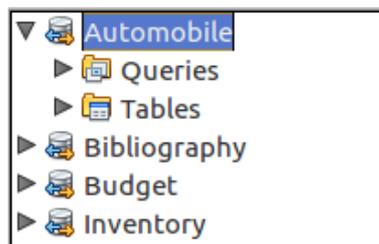
Figure 259: Databases

Editing data sources

Some data sources (but not spreadsheets) can be edited in the Data View window. A record can be edited, added, or deleted.

View a table's data

If you click on a table its rows and columns of data appear on the right side of the Data Source window. Editing this data requires only a click in the cell whose data should be changed, change the data, and click in the row above or below it to save the new data.

Beneath the records are five tiny buttons. The first four move the cursor to the beginning, to the left, to the right, and to the end respectively. The fifth button, with a small star, inserts a new record.

Figure 260: View Data Sources navigation buttons

To delete a record, right-click on the gray box to the left of a row to highlight the entire row, and select **Delete Rows** to remove the selected row.

Figure 261: Deleting a row in the Data View window

Launching Base to work on data sources

You can launch LibreOffice Base at any time from the Data Source window. Just right-click on a database or its Tables or Queries icons and select **Edit Database File**. Once in Base, you can edit, add, and delete tables, queries, forms, and reports.

Using data sources in Writer and Calc

Data can be placed into Writer and Calc documents from the tables in the data source window. In Writer, values from individual fields can be inserted. Or a complete table can be created in the Writer document. One common way to use a data source is to perform a mail merge.

Figure 262: Toolbar for the Data Sources window

> ### Tip
> Choosing **Tools > Mail Merge Wizard** or clicking on the Mail Merge icon (circled in red) in the Data Sources window launches the Mail Merge wizard which steps you through creating a mail merge document. See Chapter 11 in the *Writer Guide*.

Writer documents

To insert a field from a table opened in the data source window into a Writer document, click on the field name (the gray square at the top of the field list) and, with the left mouse button held down, drag the field onto the document. In a Writer document, it will appear as <FIELD> (where FIELD is the name of the field you dragged).

For example, to enter the cost of meals and who paid for them on a certain date of a vacation:

1) Open the list of data sources (*F4*) and select the Vacations table in the Automobile database.

2) Use this sentence: "On (date), our breakfast cost (amount) paid by (name), our lunch cost (amount) paid by (name), and our supper cost (amount) paid by (name)." But only type "On, our breakfast cost paid by , our lunch cost paid by , and our supper cost paid by ."

3) To replace (date), click the field name Date in the data source window and drag it to the right of the word *On*. The result: On <Date>. If you have Field shadings turned on (**View > Field shading**), <Date> has a gray background. Otherwise it does not.

4) To replace first (amount), click the Breakfast field name and drag it to the right of *our breakfast cost*. Make sure you have the proper spacing between the field names and the words before and after them. Result: breakfast cost <Breakfast>.

5) To replace the first (name), click the Bpayment field name and drag it to the right of *paid by*. Result: paid by <Bpayment>.

6) In the same way, fill in the rest of the fields in the sentence.

   – Use <Lunch> and <LPayment> for the second set of (amount) and (name) in the sentence.

   – Use <Supper> and <SPayment> for the third set of (amount) and (name) in the sentence.

7) Final result: On <Date>, our breakfast cost <Breakfast> paid by <BPayment>, our lunch cost <Lunch> paid by <LPayment>, and our supper cost <Supper> paid by <SPayment>.

8) Add data to the fields of the sentence:
    –   Click the gray box to the left of the row of data you want to add. That row should be highlighted like the second row of Figure 263.
    –   Click the *Data to Fields* icon (circled). This should fill the fields with the data from the row you chose.
    –   Click another row and then click this icon again. The data in the sentence changes to this selected row of data.
    –   Save the document if you want to use it as an example later.
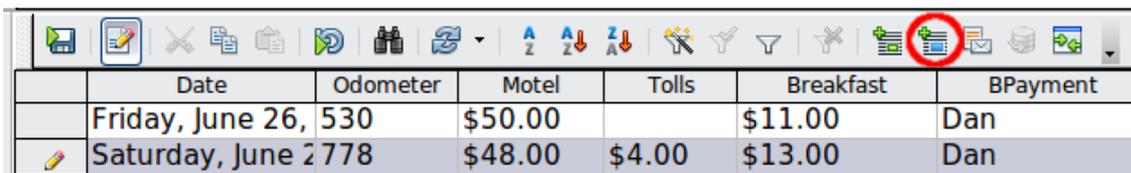
	Date	Odometer	Motel	Tolls	Breakfast	BPayment
	Friday, June 26,	530	$50.00		$11.00	Dan
	Saturday, June 2	778	$48.00	$4.00	$13.00	Dan

Figure 263: Selected row in data source window

Adding data in table format is a little easier and takes perhaps fewer steps. Some of the steps will be quite similar.

1) Navigate to the place you want to place the table and click the location.
2) *Control+Click* the gray box to the left of each row of the data source that you want to be a row in your table if the rows are not consecutive. To select consecutive rows, click the gray box to the left of the top desired row and *Shift+click* the bottom desired row.
3) Click the *Data to text* icon to open the Insert Database Columns dialog (Figure 264). (The *Data to text* icon is to the left of the Data to Fields icon in Figure 263.)
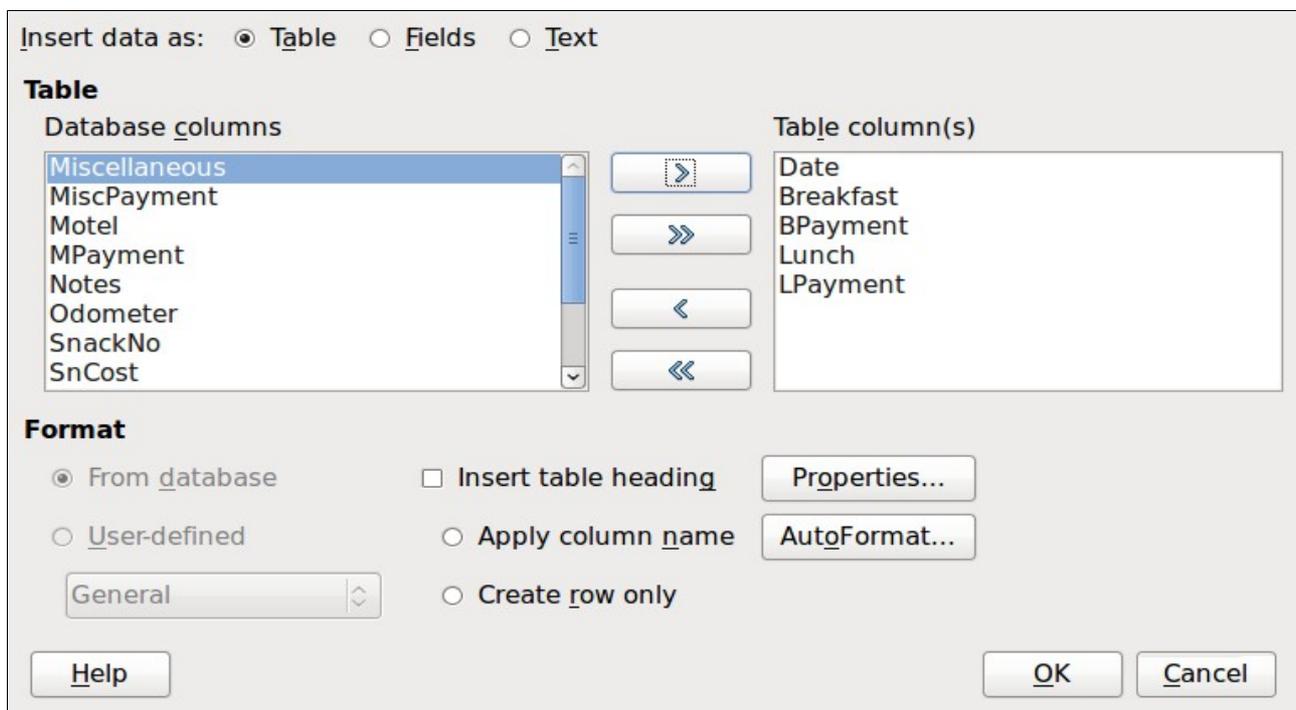
Figure 264: Insert Database Columns dialog

4) Move the fields you want in your table from the *Database Columns* list to the *Table column(s)* list.

– To place the fields in the order you select, click the field and use the *single arrow* to move the fields in the order you desire. You can also limit the fields you use to less than all of the fields available.

– If you want to use all of the fields, use the *double arrow* pointing to the right to move all of them at one time. The order of the fields in the table you create will be the same as in the data source table.

– To remove a single field from the *Table Column(s)* list, click the field and use the *single arrow* pointing to the left.

5) To start over, click the *double arrow pointing to the left.*

6) Select the settings for your table. Use the default settings as in Figure 264.

7) Click **OK**. Save the document.

Calc spreadsheets

There are two ways to transfer data into a Calc spreadsheet. One enters the data into the spreadsheet cells. The other creates complete new records in the spreadsheet. While you can directly access the data inserted into the spreadsheet cells, new records created in the spreadsheet are read-only.

Entering data directly to the spreadsheet cells uses the *Data to Text* icon as when making a table in a Writer document. But there are certain differences.

The steps are straightforward.

1) Click the cell of the spreadsheet which you want to be the top left cell of your data, including the column names.

2) Use *F4* to open the database source window and select the table whose data you want to use.

3) Select the rows of data you want to add to the spreadsheet:

– Click the gray box to the left of the row you want to select if only selecting one row. That row is highlighted.

– To select multiple rows, hold down the *Control* key while clicking the gray box of the rows you need. Those rows are highlighted.

– To select all the rows, click the gray box in the upper left corner. All rows are highlighted.

4) Click the *Data to text* icon to insert the data into the spreadsheet cells.

5) Save the spreadsheet.

Adding records to a spreadsheet is fairly easy. You need to have the Data Source window open, your spreadsheet open, and the table you want to use selected.

1) Click the gray box containing the field name for the table's ID field.

2) Drop and drag the gray box for the table's ID field to where you want the record to appear in the spreadsheet.

3) Repeat until you have moved all of the fields you need to where you want them.

4) Name and save the spreadsheet.

5) Click a row of the table in the Data Source window.

6) Drag the data in the ID field in the selected row onto the ID field in the spreadsheet. The Save icon should activate.

7) Click the *Edit File* button to make the spreadsheet read-only. Click **Save** when asked if you want to save the file.

The Data Sources window goes blank, the fields in the spreadsheet are populated with data from the row you selected, and the Form Navigation toolbar appears at the bottom of the spreadsheet.

8) Click the arrows on the Form Navigation toolbar to view the different records of the table. (The arrows are circled in red.) The number in the box changes when you change the record number by clicking an arrow. The data in the fields changes correspondingly to the data for that particular record number.

Figure 265: Navigation arrows of a form

Chapter 9
Getting Started with Math

LibreOffice's Formula (Equation) Editor

Introduction

LibreOfficeMath is a formula editor you can use to create or edit formulas (equations), in a symbolic form, within LibreOffice documents or as standalone objects. Example formulas are shown below. However, if you want to evaluate numeric values using formulas, then refer to the *Calc Guide* for more information as Math does not carry out any actual calculation.

$$\frac{df(x)}{dx} = \ln(x) + \tan^{-1}(x^2) \quad \text{or} \quad NH_3 + H_2O \rightleftharpoons NH_4^+ + OH^-$$

The Formula Editor in Math uses a markup language to represent formulas. This markup language is designed to be easily read wherever possible, for example, a `over` b produces the fraction $\frac{a}{b}$ when used in a formula.

Getting started

Using the Formula Editor, you can create a formula as a separate document or file for a formula library, or insert formulas directly into a document using LibreOffice Writer, Calc, Impress, or Draw.

Formulas as separate documents or files
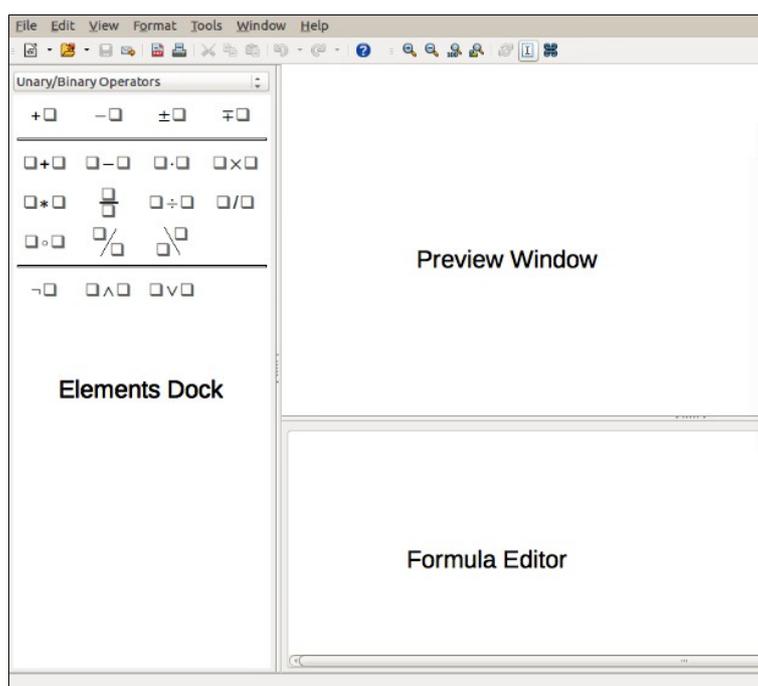
Figure 266: An empty formula document in Math

To create a formula as a separate document or file, use one of the following methods to open an empty formula document in LibreOffice Math (Figure 266):

- On the menu bar, go to **File > New > Formula**.

- From the Start Center, click **Math Formula**.

- On the Standard toolbar, click the triangle to the right of the **New** icon and select **Formula** from the context menu.

- In Math, use the keyboard shortcut *Ctrl+N*.

As you enter the markup language in the Formula Editor, the formula will appear in the Preview window during and after input of the markup language. The Elements window to the left of the Preview window may also appear, if it has been selected in **View** on the menu bar. For more information on creating formulas, see "Creating formulas" on page 267.

Formulas in LibreOffice documents

To insert a formula into a LibreOffice document, open the document in Writer, Calc, Draw, or Impress. The LibreOffice module you are using affects how you position the cursor to insert the formula.

- In Writer, click in the paragraph where you want to insert the formula.
- In Calc, click in the spreadsheet cell where you want to insert the formula.
- In Draw and Impress, the formula is inserted into the center of the drawing or slide.

Then, go to **Insert > Object > Formula** on the menu bar to open the Formula Editor. Alternatively, go to **Insert > Object > OLE Object** on the menu bar to open the Insert OLE Object dialog, select **Create new** option and *Formula* from the sub-menu, then click OK to open the Formula Editor. The Elements window to the left of the Preview window may also appear, if it has been selected in **View** on the menu bar. For more information on creating formulas, see "Creating formulas" on page 267.

Figure 267 shows an example Writer document with the formula box selected ready for a formula to be entered.
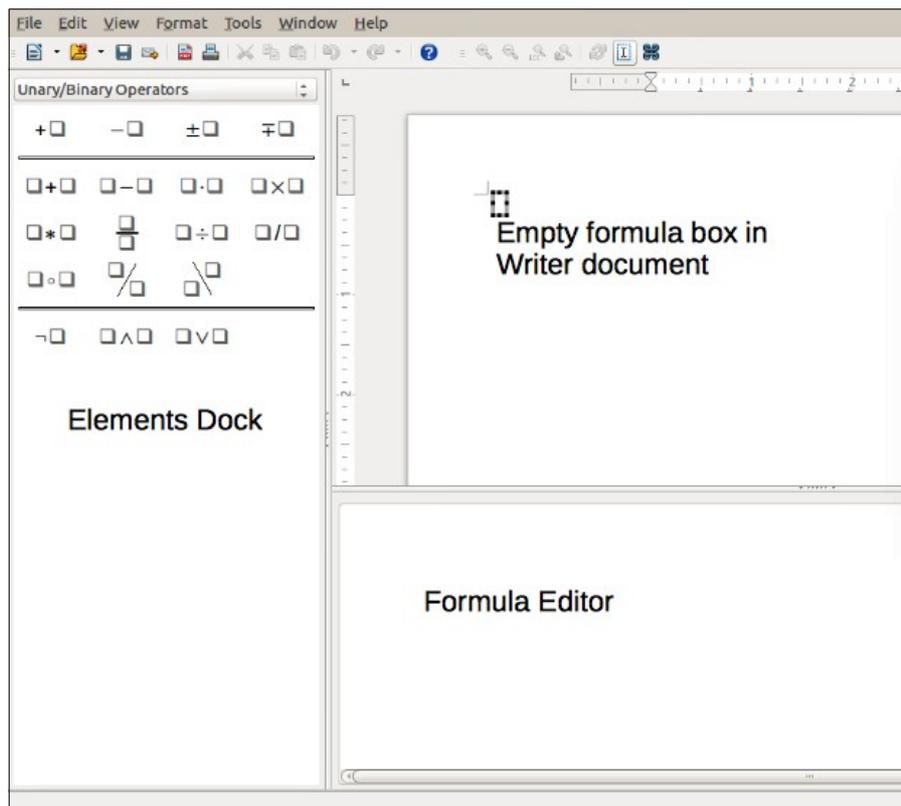
Figure 267: Empty formula in a Writer document

When you have completed entering the markup language for the formula, close the Formula Editor by pressing the *Esc* key or by clicking an area outside the formula in your document. Double-clicking on the formula object in the document will open the Formula Editor again so that you can edit the formula.

Formulas are inserted as OLE objects into documents. You can, as with any OLE object, change how the object is placed within the document. For more information on OLE objects, see the user guides for *Math*, *Writer*, *Calc*, *Draw*, and *Impress*.

If you frequently insert formulas into documents, it is recommended to add the Formula button to the Standard toolbar or create a keyboard shortcut. See Chapter 14, Customizing LibreOffice, for more information.

Creating formulas

You can insert elements into a formula using one of the following methods:

- Select a category from the drop-down list, then a symbol using the Elements window.
- Right-click in the Formula Editor and select a category, then a symbol from the context menu.
- Enter markup language directly in the Formula Editor.

🟢 Note

Using the Elements window or the context menus to insert a formula provides a convenient way to learn the markup language used by LibreOffice Math.

Elements window

The Elements window can easily be used when entering formula data. In addition to the list of categories at the top of the window, it also provides an Example category which gives you example formulas to use as a starting point for your formula or equation.

1) Go to **View** on the menu bar and select **Elements** to open the Elements window.
2) Select the category you want to use in the formula from the drop-down list at the top of the Elements window.
3) Select the symbol you want to use in the formula from the Elements window. The symbols that are available change according to the selected category.

🟢 Note

The Elements window is positioned by default to the left of the Preview and Formula Editor windows, as shown in Figure 266 and Figure 267. It can be floated in the same way as other docked windows.

▶ Tip

When using the Elements window, it is recommended to have *Tips* selected in the LibreOffice Options. This will help you identify the categories and symbols you want to use in the formula. Go to **Tools > Options > LibreOffice > General** and select **Tips** in the *Help* section.

Context menu

The Formula Editor also provides a context menu to access categories and symbols when creating a formula. Right-click in the Formula Editor to open the context menu. Select a category and then select the markup example that you want to use from the sub-context menu. An example is shown in Figure 268.
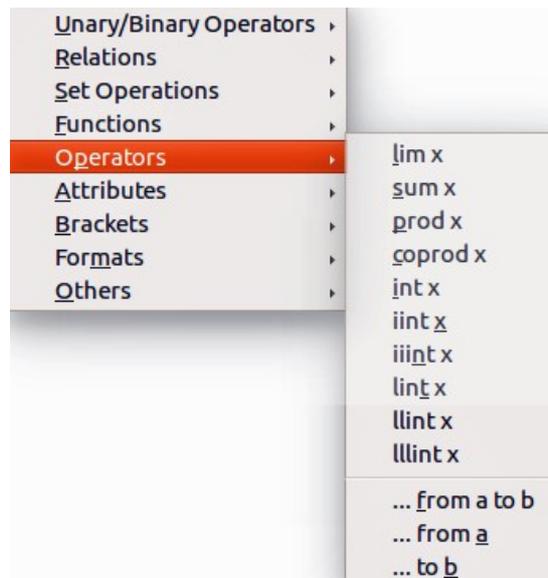
Figure 268: Context menu in Formula Editor

🟢 **Note**

The Elements window and the context menu contain only the most common commands that are used in formulas. For some seldom-used commands, you must always enter the command using the markup language. For a complete list of commands, see the *Math Guide*.

Markup language

Markup language is entered directly into the Formula Editor. For example, typing the markup language 5 `times` 4 into the Formula Editor creates the simple formula 5×4. If you are experienced in using markup language, it can be the quickest way to enter a formula. Table 5 shows some examples of using markup language to enter commands. For a full list of commands that can be used in the Formula Editor, see the *Math Guide*.

Table 5: Example commands using markup language

Display	Command	Display	Command
$a = b$	`a = b`	$\sqrt{a}$	`sqrt {a}`
a^2	`a^2`	a_n	`a_n`
$\int f(x)\,dx$	`int f(x) dx`	$\sum a_n$	`sum a_n`
$a \leq b$	`a <= b`	∞	`infinity`
$a \times b$	`a times b`	$x \cdot y$	`x cdot y`

Greek characters

Using markup language

Greek characters are commonly used in formulas, but Greek characters cannot be entered into a formula using the Elements window or the context menu. Use the English names of Greek characters in markup language when entering Greek characters into a formula. See Appendix A,

Commands Reference, in the *Math Guide* for a list of Greek characters that can be entered using markup language.

- For a lowercase Greek character, type a percentage % sign, then type the character name in lowercase using the English name. For example, typing %lambda creates the Greek character λ.

- For an UPPERCASE Greek character, type a percentage % sign, then type the character name in UPPERCASE using the English name. For example, typing %LAMBDA creates the Greek character Λ.

- For an *italic* Greek character, type a percentage % sign followed by the i character, then the English name of the Greek character in lower or UPPER case. For example, typing %iTHETA creates the *italic* Greek character *Θ*.

Symbols dialog

Greek characters can also be entered into a formula using the Symbols dialog.

1) Make sure your cursor is in the correct position in the Formula Editor.

2) Go to **Tools > Catalog** on the menu bar or click on the **Catalog** icon in the Tools toolbar to open the Symbols dialog (Figure 269)

3) Select *Greek* from the **Symbol set** drop-down list. For *italic* characters, select *iGreek* from the drop-down list.

4) Select the Greek character from the symbol list, then click **Insert**. When selected, the name of a Greek character is shown below the symbol list.

5) Click **Close** when you have finished entering Greek characters into the formula.
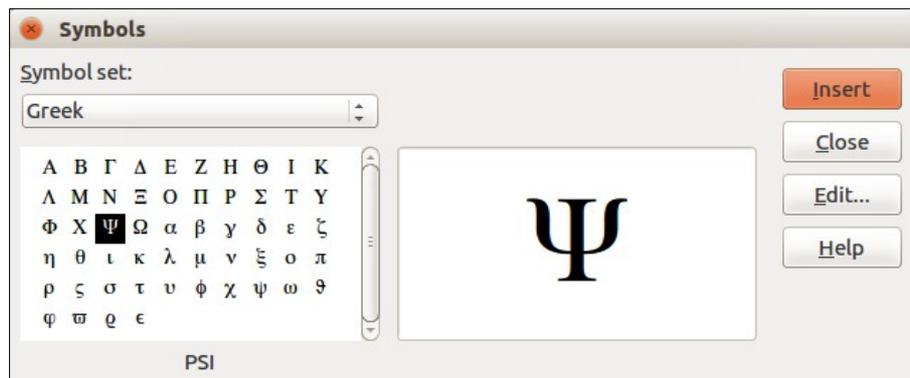
Figure 269: Symbols dialog

Formula examples

Example 1

The simple formula 5×4 can be created using LibreOffice Math as follows:

1) Make sure your cursor is flashing in the Formula Editor, then select the category **Unary/Binary Operators** and symbol **Multiplication** using one of the following methods:

   – In the Elements window, select **Unary/Binary Operators** from the drop-down list and then select the **Multiplication** icon .

   – Right-click in the Formula Editor and select **Unary/Binary Operators > a times b** from the context menu.

2) Select the first placeholder <?> before the word `times` in the Formula Editor and replace it with the character 5. The formula in the document updates automatically.

3) Select the second placeholder <?> after the word `times` in the Formula Editor and replace it with the character 4. The formula in the document updates automatically.

This method initially places the formula text `<?> times <?>` in the Formula Editor and the symbol $\square\times\square$ appears in the document. These placeholders must then be replaced with real numbers. Using markup language in the Formula Editor places the formula 5×4 directly into the document. To use markup language, enter `5 times 4` in the Formula Editor. 5×4 appears in the document.

> ▶ **Tip**
>
> To move forward from one placeholder to the next placeholder in a formula, press the *F4* key. To move backward from one placeholder to the previous placeholder in a formula, use the key combination *Shift+F4*.

> 🟢 **Note**
>
> If necessary, you can prevent a formula in a document from updating automatically. Go to **View** on the menu bar and deselect **AutoUpdate display**. To then manually update a formula, press *F9* key or select **View > Update** on the menu bar.

Example 2

You want to enter the formula $\pi \simeq 3.14159$ where the value of pi is rounded to 5 decimal places. You know the name of the Greek character (pi), but do not know the markup associated with the `Is Similar Or Equal` symbol $\simeq$.

1) Make sure your cursor is flashing in the Formula Editor.

2) Enter `%pi` in the Formula Editor to enter the Greek character for pi (π).

3) Select the category **Relations** and symbol **Is Similar Or Equal** using one of the following methods:

   – In the Elements window, select **Relations** from the drop-down list and then select the **Is Similar Or Equal** icon $\square\simeq\square$.

   – Right-click in the Formula Editor and select **Relations > a simeq b** from the context menu.

4) Delete the first placeholder <?> before the word `simeq` in the Formula Editor.

5) Select the second placeholder <?> after the word `simeq` in the Formula Editor and replace it with the characters `3.14159`. The formula $\pi \simeq 3.14159$ now appears in the document.

Editing formulas

How you edit a formula and switch into formula editing mode depends on whether the formula is in Math or another LibreOffice component.

1) In Math, double-click on a formula element in the formula that appears in the Preview window to select the formula element in the Formula Editor, or directly select a formula element in the Formula Editor.

2) In Writer, Calc, Impress, or Draw, double-click on the formula, or right-click on the formula and select **Edit** form the context menu to open the Formula Editor in editing mode. The cursor is positioned at the start of the formula in the Formula Editor.

Note

If you cannot select a formula element using the cursor, click on the **Formula Cursor** icon in the Tools toolbar to activate the formula cursor.

3) Select the formula element you want to change use one of the following methods:
   – Click on the formula element in the preview window, position the cursor at the beginning of the formula element in the Formula Editor, then select the formula element in the Formula Editor.
   – Double-click on the formula element in the preview window to select the formula element in the Formula Editor.
   – Position the cursor in the Formula Editor at the formula element you want to edit, then select that formula element.
   – Double-click directly on the formula element in the Formula Editor to select it.

4) Make your changes to the formula element you have selected.

5) Go to **View > Update** on the menu bar, or press the *F9* key, or click on the **Update** icon in the Tools toolbar to update the formula in the preview window or the document.

6) In Math, save your changes to the formula after editing.

7) In Writer, Calc, Impress, or Draw, click anywhere in your document away from the formula to leave editing mode, then save the document to save your changes to the formula.

Formula layout

This section provides some advice on how to layout complex formulas in Math or in your LibreOffice document.

Using braces

LibreOffice Math knows nothing about order of operation within a formula. You must use braces (also known as curly brackets) to state the order of operations that occur within a formula. The following examples show how brackets can be used in a formula.

Example 1

`2 over x + 1` gives the result $\frac{2}{x}+1$

Math has recognized that the 2 before and the x after the `over` as belonging to the fraction, and has represented them accordingly. If you want x+1 rather than x to be the denominator, you must bracket them together using braces so that both will be placed there.

Inserting braces into `2 over {x + 1}` gives the result $\frac{2}{x+1}$ where x+1 is now the denominator.

Example 2

`– 1 over 2` gives the result $\frac{-1}{2}$

Math has recognized the minus sign as a prefix for the 1 and has therefore placed it in the numerator of the fraction. If you wish to show that the whole fraction is negative, with the minus sign in front of the fraction, you must put the fraction in braces to signify to Math that the characters belong together.

Adding braces to into the markup language `{1 over 2}` gives the result $-\dfrac{1}{2}$ and the whole fraction is now negative.

Example 3

When braces are used in markup language, they are used to define the layout of the formula and are not displayed or printed. If you want to use braces within your formula, you use the commands `lbrace` and `rbrace` within the markup language.

`x over {–x + 1}` gives the result $\dfrac{x}{-x+1}$

Replace the braces using the commands `lbrace` and `rbrace` in the markup language.

Writing `x over lbrace –x + 1 rbrace` and the result is $\dfrac{x}{\{-x+1\}}$

Brackets and matrices

If you want to use a matrix in a formula, you have to use a matrix command. For example, `matrix { a # b ## c # d }` gives the resulting matrix $\begin{matrix} a & b \\ c & d \end{matrix}$ in the formula, where rows are separated by two hashes (#) and entries within each row are separated by one hash (#).

Normally, when you use brackets within a matrix, the brackets do not scale as the matrix increases in size. For example, `( matrix { a # b ## c # d } )` gives the result $(\begin{matrix} a & b \\ c & d \end{matrix})$

To overcome this problem of brackets with a matrix, LibreOffice Math provides scalable brackets that grow in size to match the size of a matrix. The commands `left(` and `right)` have to be used to create scalable brackets within a matrix. For example, `left( matrix { a # b ## c # d } right)` gives the result $\begin{pmatrix} a & b \\ c & d \end{pmatrix}$ where the matrix is now bracketed by scalable brackets.

Scalable brackets can be used with any element of a formula, such as fraction, square root, and so on.

▶ **Tip**

Use the commands `left[` and `right]` to obtain square brackets. A list of all brackets available within Math can be found in Appendix A, Commands Reference, in the *Math Guide*.

▶ **Tip**

If you want all brackets to be scalable, go to **Format > Spacing** to open the Spacing dialog. Click on **Category**, select *Brackets* from the drop-down list and then select the option **Scale all brackets**.

Unpaired brackets

When using brackets in a formula, Math expects that for every opening bracket there will be a closing one. If you forget to add a closing bracket, Math places an inverted question mark next to where the closing bracket should have been placed. This inverted question mark disappears when all the brackets are paired. However, an unpaired bracket is sometimes necessary and you have the following options.

Non-scalable brackets

A backslash \ is placed before a non-scalable bracket to indicate that the following character should not be regarded as a bracket, but as a literal character.

For example, the unpaired brackets in the formula [a; b [are deliberate, but gives the result $a; b$. To remove the inverted question marks and create unpaired brackets, backslashes are added. The formula now becomes \ [a; b \ [and the result $[a; b[$ shows unpaired brackets without the inverted question marks.

Scalable brackets

To create unpaired scalable brackets or braces in a formula, the markup commands `left`, `right`, and none are used.

Example

> You want to create the formula $|x| = \begin{cases} x \text{ for } x \geq 0 \\ -x \text{ for } x < 0 \end{cases}$ and in the Formula Editor you enter abs
> = x lbrace stack {x "for" x >= 0 # -x "for" x < 0. However, this gives the
> incorrect result $\begin{matrix} x \text{ for } x \geq 0 \\ -x \text{ for } x < 0 \end{matrix}$. To remove the inverted question marks and create the correct
> formula, you have to use the markup commands `left`, `right`, and none. Change the
> entry in the Formula Editor to abs x = left lbrace stack {x "for" x >= 0 # -x
> "for" x < 0} right none and this creates the correct formula.

Recognizing functions

In the basic installation of Math, Math outputs functions in normal characters and variables in *italic* characters. However, if Math fails to recognize a function, you can tell Math that you have just entered a function. Enter the markup command `func` before a function forces Math to recognize the following text as a function and uses normal characters.

For a full list of functions within Math, see the *Math Guide*.

Some Math functions have to be followed by a number or a variable. If these are missing, Math places an inverted question mark where the missing number or variable should be. To remove the inverted question mark and correct the formula, you have to enter a number, a variable or a pair of empty brackets as a placeholder.

> **Tip**
>
> You can navigate through errors in a formula using the key *F3* or the key combination *Shift+F3*.

Formulas over multiple lines

Suppose you want to create a formula that requires more than one line, for example $\begin{matrix} x=3 \\ y=1 \end{matrix}$ and your first reaction would normally be to press the *Enter* key. However, if you press the *Enter* key, the markup language in the Formula Editor goes to a new line, but the resulting formula does not have two lines. You must type the macro command `newline` each time you want to create and display a new line in a formula.

Example

```
x = 3
y = 1
```
gives the incorrect result $x=3\ y=1$

`x = 3 newline y = 1` gives the correct result $\begin{matrix} x=3 \\ y=1 \end{matrix}$

It is not possible in Math to create multiple-line formulas when a line ends with an equals sign and you want to continue the calculation on a new line without completing the term on the right side of the equals sign. If you require a multiple line formula to have an equals sign at the end of a line without a term after the equals sign, then use either empty quotes "" or empty braces {} or the space characters grave ` or tilde ~.

By default, the alignment of a multiple line formula is center aligned. For more information on alignment using the equals sign, see the *Math Guide*.

Spacing between the elements in a formula is not set by using space characters in the markup language. If you want to add spaces into the formula, use one of the following options:

- Grave ` to add a small space.
- Tilde ~ for a large space.
- Add space characters between quotes " ". These spaces will be considered as text.

Any spaces at the end of a line in the markup language are ignored by default. For more information, *see the Math Guide*.

Adding limits to sum/integral commands

The sum and integral commands can take the parameters `from` and `to` if you want to set the lower and upper limits respectively. The parameters `from` and `to` can be used singly or together as shown by the following examples. For more information on the sum and integral commands, see the *Math Guide*.

Examples

`sum from k = 1 to n a_k` gives the result $\sum_{k=1}^{n} a_k$

`int from 0 to x f(t) dt` gives the result $\int_{0}^{x} f(t)\,dt$

`int_0^x f(t) dt` gives the result $\int_{0}^{x} f(t)\,dt$

`int from Re f` gives the result $\int_{\Re} f$

`sum to infinity 2^{-n}` gives the result $\sum^{\infty} 2^{-n}$

Writing derivatives

When writing derivatives, you have to tell Math that it is a fraction by using the `over` command. The `over` command is combined with the character d for a total derivative or the `partial` command for a partial derivative to achieve the effect of a derivative. Braces {} are used each side of the element to surround the element and make the derivative as shown by the following examples.

Examples

`{df} over {dx}` gives the result $\dfrac{df}{dx}$

`{partial f} over {partial y}` gives the result $\dfrac{\partial f}{\partial y}$

`{partial^2 f} over {partial t^2}` gives the result $\dfrac{\partial^2 f}{\partial t^2}$

> **Note**
>
> To write function names with primes, as is normal in school notation, you must first add the symbols to the catalog. See the *Math Guide* for more information.

Markup language characters as normal characters

Characters that are used as controls in markup language cannot be entered directly as normal characters. These characters are: %, {, }, &, |, _, ^ and ". For example, you cannot write `2% = 0.02` in markup language and expect the same characters to appear in the formula. To overcome this limitation in markup language, use one of the following methods:

- Use double quotes either side of the character to mark that character as text, for example `2"%"= 0.02` will appear in the formula as $2\% = 0.02$. However, this method cannot be used for the double-quote character itself, see "Text in formulas" below.
- Add the character to the Math Catalog, for example the double quote character.
- Use commands, for example `lbrace` and `rbrace` give you literal braces $\{\}$.

> **Note**
>
> The Special Characters dialog used by other LibreOffice modules is not available in Math. If you are going to regularly require special characters in Math, then it is recommended to add the characters to the Math Catalog, *see the Math Guide* for more information.

Text in formulas

To include text in a formula, you have to enclose it in double-quotes, for example `x " for " x >= 0` in markup language will create the formula $x \text{ for } x \geq 0$. All characters, except double quotes, can be used in text. However, if you require double quotes in the formula text, then you have to create the text with double quotes in LibreOffice Writer, then copy and paste the text into the Formula Editor as shown in Figure 270.

The font used for text in a formula will be the default font that has been set in the Fonts dialog. For more information on how to change fonts used for in formulas, see "Changing formula appearance" on page 277.

By default, text alignment is left-justified in formulas. To change text alignment, see "Adjusting formula alignment" on page 279.

Formatting commands are not interpreted within text used in formulas. If you want to use formatting commands within formula text, then you must break up the text using double quotes in the Formula Editor.
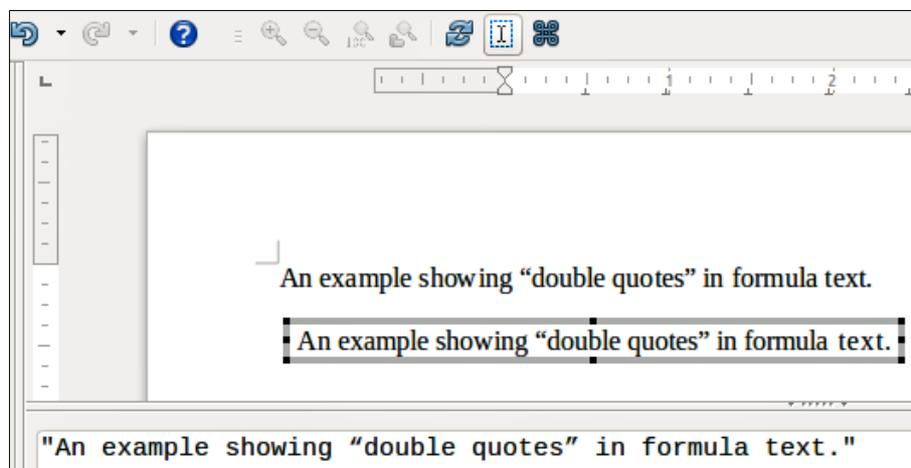
Figure 270: Example of double quotes in formula text

Example

Enter the following in the Formula Editor:

```
"In " color blue bold "isosceles" "triangles, the base angles are
equal"
```

creates the following text in a formula   In **isosceles** triangles, the base angles are equal

Aligning formulas using equals sign

LibreOffice Math does not have a command for aligning formulas on a particular character. However, you can use a matrix to align formulas on a character and this character is normally the equals sign (=).

Example

Creating the matrix:

```
matrix{ alignr x+y # {}={} # alignl 2 ## alignr x   # {}={} # alignl
2-y }
```

gives the following result where formulas are aligned on the equals sign $\begin{matrix} x+y & = & 2 \\ x & = & 2-y \end{matrix}$

Note

The empty braces each side of the equals sign are necessary because the equals sign is a binary operator and requires an expression on each side. You can use spaces, or ` or ~ characters each side of the equals sign, but braces are recommended as they are easier to see within the markup language.

You can reduce the spacing on each side of the equals sign if you change the inter-column spacing of the matrix. See "Adjusting formula spacing" on page 279 for information on how to adjust adjust formula spacing.

Changing formula appearance

Formula font size

Current formula font size

To change the font size used for a formula already inserted in Math or another LibreOffice module:

1) Click in the markup language in the Formula Editor.

2) Go to **Format > Font size** on the menu bar to open the Font Sizes dialog (Figure 271).

3) Select a different font size using the *Base size* spinner or type a new font size in the *Base Size* box.

4) Click **OK** to save your changes and close the dialog. An example result when you change font size is shown below.

Example

Default font size 12pt: $\pi \simeq 3.14159$

After font size change to 18pt: $\pi \simeq 3.14159$
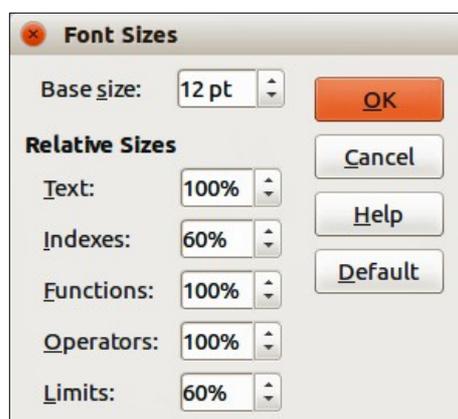
Figure 271: Font Sizes dialog

Default formula font size

To change the default font size used for all formulas in Math or another LibreOffice module:

1) Before inserting any formulas into your document, go to **Format > Font size** on the menu bar to open the Font Sizes dialog (Figure 271).

2) Select a different font size using the Base size spinner or type a new font size in the *Base Size* box.

3) Click **Default** and confirm your changes to the base size font. Any formulas created from this point on will use the new base size font for formulas.

4) Click **OK** to save your changes and close the Font Sizes dialog.

Note

If you have already inserted formulas into your document and you change the default font size, only formulas inserted after the change in default font size will use the new default settings. You have to individually change the font size of formulas already inserted if you want these formulas to use the same font size as the default settings. For more information on changing the font size, see the *Math Guide*.

Formula fonts

Current formula fonts

To change the fonts used for the current formula in Math or another LibreOffice module:

1) Click in the markup language in the Formula Editor.
2) Go to **Format > Fonts** on the menu bar to open the Fonts dialog (Figure 272).
3) Select a new font for each the various options from the drop-down lists.
4) If the font you want to use does not appear in the drop-down list, click **Modify** and select the option from the context menu to open a fonts dialog. Select the font you want to use and click **OK** to add it to the drop-down list for that option.
5) Click **OK** to save your changes and close the Fonts dialog.

Figure 272: Fonts dialog

Default formula fonts

To change the default fonts used for all formulas in Math or another LibreOffice module:

1) Before inserting any formulas into your document, go to **Format > Fonts** on the menu bar to open the Fonts dialog (Figure 272).
2) Select a new font where required for each of the various options from the drop-down lists.
3) If the font you want to use does not appear in the drop-down list, click **Modify** and select the option from the context menu to open a fonts dialog. Select the font you want to use and click **OK** to add it to the drop-down list for that option.
4) Click **Default** and confirm your changes to the fonts. Any formulas created from this point on will use the new fonts for formulas.
5) Click **OK** to save your changes and close the Fonts dialog.

Note

If you have already inserted formulas into your document and you change the default fonts, only formulas inserted after the change in default fonts will use the new default settings. You have to individually change the font of formulas already inserted if you want these formulas to use the same font as the default settings. For more information on changing the font, see the *Math Guide*.

Adjusting formula spacing

Use the Spacing dialog (Figure 273) to determine the spacing between formula elements. The spacing is specified as a percentage in relation to the defined base size for font sizes.

Current formula spacing

To change the spacing used for the current formula in Math or another LibreOffice module:

1) Click in the markup language in the Formula Editor.

2) Go to Format > Spacing on the menu bar to open the Spacing dialog (Figure 273).

3) Click **Category** and select one of the options from the drop-down list. The options in the Spacing dialog change according to the category selected.

4) Enter new values for the spacing category and click **OK**.

5) Check the result in your formula. If not to your satisfaction, repeat the above steps.
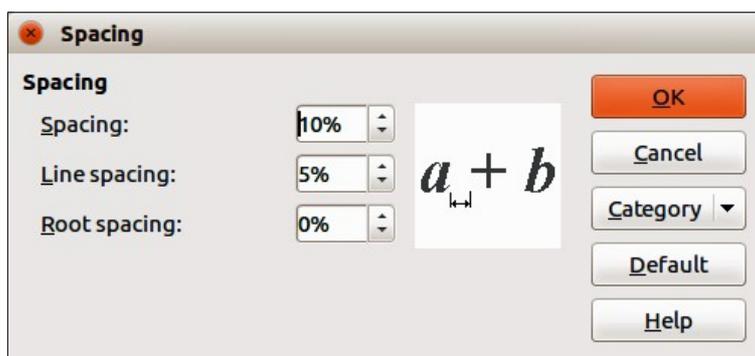
Figure 273: Spacing dialog

Default formula spacing

To change the default spacing used for all formulas in Math or another LibreOffice module:

1) Before inserting any formulas into your document, go to **Format > Spacing** on the menu bar to open the Spacing dialog (Figure 273).

2) Click **Category** and select one of the options from the drop-down list. The options in the Spacing dialog change according to the category selected.

3) Click **Default** and confirm your changes to the formula spacing. Any formulas created from this point on will use the new spacing for formulas.

4) Click **OK** to save your changes and close the Spacing dialog.

🟢 Note

If you have already inserted formulas into your document and you change the spacing, only formulas inserted after the change in spacing will use the new default settings. You have to individually change the spacing of formulas already inserted if you want these formulas to use the same spacing as the default settings. For more information on changing the formula spacing, see the *Math Guide*.

Adjusting formula alignment

The alignment settings determine how formula elements located above one another are aligned horizontally relative to each other.

Note

It is not possible to align formulas on a particular character and formula alignment does not apply to text elements. Text elements are always aligned left.

Note

Independent of using formula alignment given below, it is possible to align formulas using the commands `alignl`, `alignc` and `alignr`. These commands also work for text elements.

Current formula alignment

To change the alignment used for the current formula in Math or another LibreOffice module:

1) Click in the markup language in the Formula Editor.
2) Go to **Format > Alignment** on the menu bar to open the Alignment dialog (Figure 274).
3) Select either *Left*, *Centered*, or *Right* for horizontal alignment.
4) Click **OK** and check the result in your formula. If not to your satisfaction, repeat the above steps.
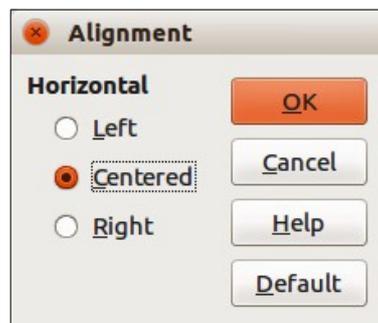
Figure 274: Alignment dialog

Default formula alignment

To change the default alignment used for all formulas in Math or another LibreOffice module:

1) Before inserting any formulas into your document, go to **Format > Alignment** on the menu bar to open the Alignment dialog (Figure 274).
2) Select either *Left*, *Centered*, or *Right* for horizontal alignment.
3) Click **Default** and confirm your changes to the formula alignment. Any formulas created from this point on will use the new alignment for formulas.
4) Click **OK** and check the result in your formula. If not to your satisfaction, repeat the above steps.

Note

If you have already inserted formulas into your document and you change the formula alignment, only formulas inserted after the change in alignment will use the new default settings. You have to individually change the alignment of formulas already inserted if you want these formulas to use the same alignment as the default settings.

Changing formula color

Character color

Formula color for the characters used in a formula is changed by using the command `color` in the mark up language. This command only works on the formula element immediately after the color name. For example, entering the markup language `color red ABC 5 times 4` gives the result $\textcolor{red}{ABC}\, 5 \times 4$.

To change the color of the whole formula, you have to enclose the whole formula within brackets. For example, entering the markup language `color red {ABC 5 times 4}` gives the result $\textcolor{red}{ABC\, 5 \times 4}$.

For information on the colors available in Math, see the *Math Guide*.

> **Tip**
>
> For ease of use, the Elements window includes the category *Attributes*, which lists standard colors. Click on the required color to insert the command into your formula.

Background color

It is not possible to select a background color for formulas in LibreOffice Math. The background color for a formula is by default the same color as the document or frame that the formula has been inserted into. However, in LibreOffice documents, you can use object properties to change the background color for a formula. For more information on using a background color (area fill for objects) with a formula, please refer to the user guides for *Writer*, *Calc*, *Draw*, and *Impress*.

Formula library

If you regularly insert the same formulas into your documents, you can create a formula library using formulas that you have created using the Formula Editor. Individual formulas can be saved as separate files using the ODF format for formulas with the file suffix of `.odf`, or in MathML format with the file suffix of `.mml`.

You can use LibreOffice Math, Writer, Calc, Draw, or Impress to create formulas and build up your formula library.

Using Math

1) Create a folder on your computer to contain your formulas and give the folder a memorable name, for example Formula Library.

2) In LibreOffice, go to **File > New > Formula** on the menu bar, or click on **Math Formula** in the opening splash screen to open LibreOffice Math and create your formula using the Formula Editor. See "Formulas as separate documents or files" on page 265 for more information.

3) Go to **File > Save As** on the menu bar or use the keyboard shortcut *Ctrl+Shift+S* to open a Save As dialog.

4) Navigate to the folder you have created for your formula library.

5) Type in a memorable name for your formula in the **File name** text box.

6) Select from the drop-down list for **File type** either *ODF Formula (.odf)* or *MathML 1.01 (.mml)* as the file type for your formula.

7) Click **Save** to save the formula and close the Save As dialog.

Using Writer, Calc, Draw, or Impress

1) Create a folder on your computer to contain your formulas and give the folder a memorable name, for example Formula Library.

2) Open a document using Writer, Calc, Draw, or Impress.

3) Go to **Insert > Object > Formula** on the menu bar to open the Formula Editor and create your formula. See "Formulas in LibreOffice documents" on page 266 for more information.

4) Right-click on the formula object and select **Save Copy as** from the context menu to open a Save As dialog.

5) Navigate to the folder you have created for your formula library.

6) Type in a memorable name for your formula in the **File name** text box.

7) Select from the drop-down list for **File type** either *ODF Formula (.odf)* or *MathML 1.01 (.mml)* as the file type for your formula.

8) Click **Save** to save the formula and close the Save As dialog.

Using your formula library

You cannot insert a formula from your library into a document by dragging and dropping using the mouse, nor by using **Insert > File** on the menu bar. You must insert a formula from your library into your document as an OLE object.

1) Open the document in Writer, Calc, Draw, or Impress.

2) Go to **Insert > Object > OLE Object** on the menu bar to open the Insert OLE Object dialog.

3) Select the option **Create from file**.

4) Click **Search** to open your file browser dialog.

5) Navigate to the folder you have created for your formula library.

6) Select the formula you want to insert and click **Open**, or double-click on the formula you want to insert.

7) Click **OK** to insert the formula as an OLE object in the document and close the OLE Object dialog.

Formulas in Writer

When a formula is inserted into a document, LibreOffice Writer inserts the formula into a frame and treats the formula as an OLE object. Double-clicking on an inserted formula will open the Formula Editor in LibreOffice Math, where you can edit the formula.

This section explains what options you can change for each individual formula within a Writer document. Please refer to the chapters on styles in the *Writer Guide* for information on how to change the default settings for frame styles for OLE objects.

Automatic formula numbering

Automatic numbering of formulas for cross-reference purposes can only be carried out in LibreOffice Writer.

Numbering

1) Start a new line in your document.

2) Type *fn* and then press the *F3* key. A two-column table with no borders is inserted into your document with the left column containing a sample formula and the right column containing a reference number, as shown below.

$$ABC\,5\times4 \tag{1}$$

3) Delete the sample formula and insert your formula as an object in the left column. See "Creating formulas" on page 267 for more information on inserting formulas.

Alternatively, you can first insert your formula into the document, then carry out Steps 1 and 2 above, replacing the sample formula with your formula.

Note

If you want to use square parentheses instead of round ones around the formula number, or if you want the formula number to be separated from the formula by tabs instead of using a table, then you need to modify the AutoText entry for *fn*. Refer to the section on AutoText in Chapter 4, Getting Started with Writer.

Cross-referencing

1) Click in the document where you want the cross-reference to appear.

2) Go to **Insert > Cross-reference** on the menu bar to open the Fields dialog (Figure 275).

3) Click on the **Cross-references** tab, then select *Text* in the **Type** section.

4) In the **Selection** section, select the formula number you want to refer to.

5) In the **Insert reference to** section, select *Reference* and click **Insert**.

6) When you have finished creating cross-references, click **Close** to close the Fields dialog.

Tip

To insert the cross-reference number without parentheses, select *Numbering* instead of *Reference* in the **Insert** reference to section.
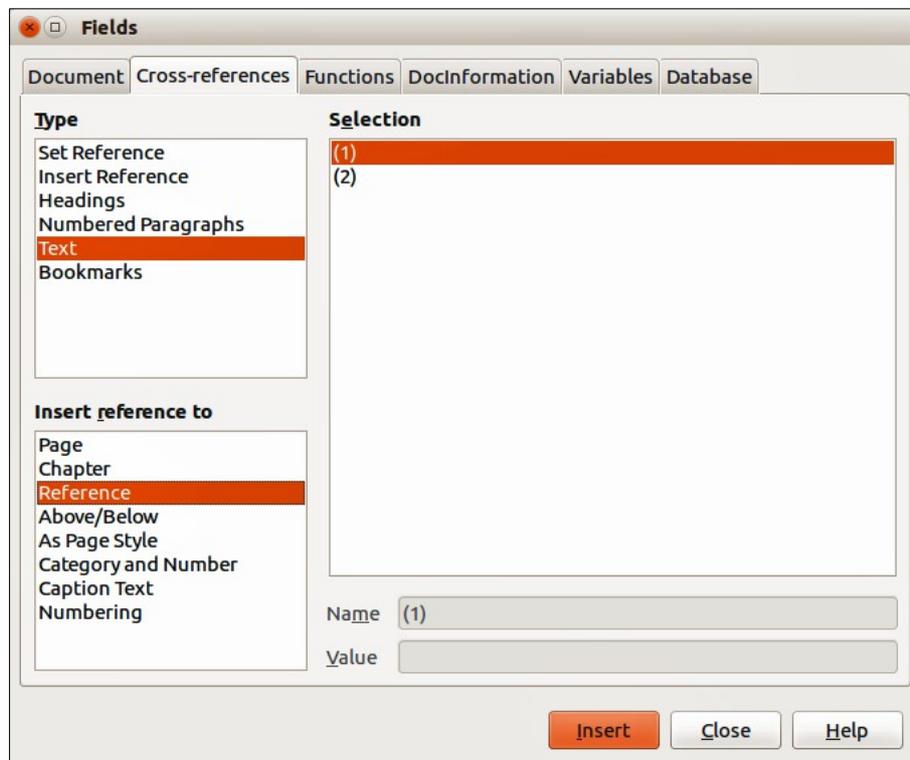
Figure 275: Fields dialog – Cross-references page

Anchoring formulas

A formula is treated as an object within Writer and its default anchoring is **As character** within a paragraph when it is inserted into a document. To change the anchoring of a formula object:

1) Right-click on the selected formula object and select **Anchor** from the context menu.

2) Select a new anchoring option from the context sub-menu. The anchoring positions available are **To page**, **To paragraph**, **To character**, or **As character**.

Alternatively,

1) Right-click on the selected formula object and select **Object** from the context menu, or go to **Format > Frame/Object** on the menu bar to open the Object dialog (Figure 276).

2) Make sure the **Type** page is selected and select a new anchoring position from the *Anchor* section.

3) Click **OK** to save your changes and close the Object dialog.
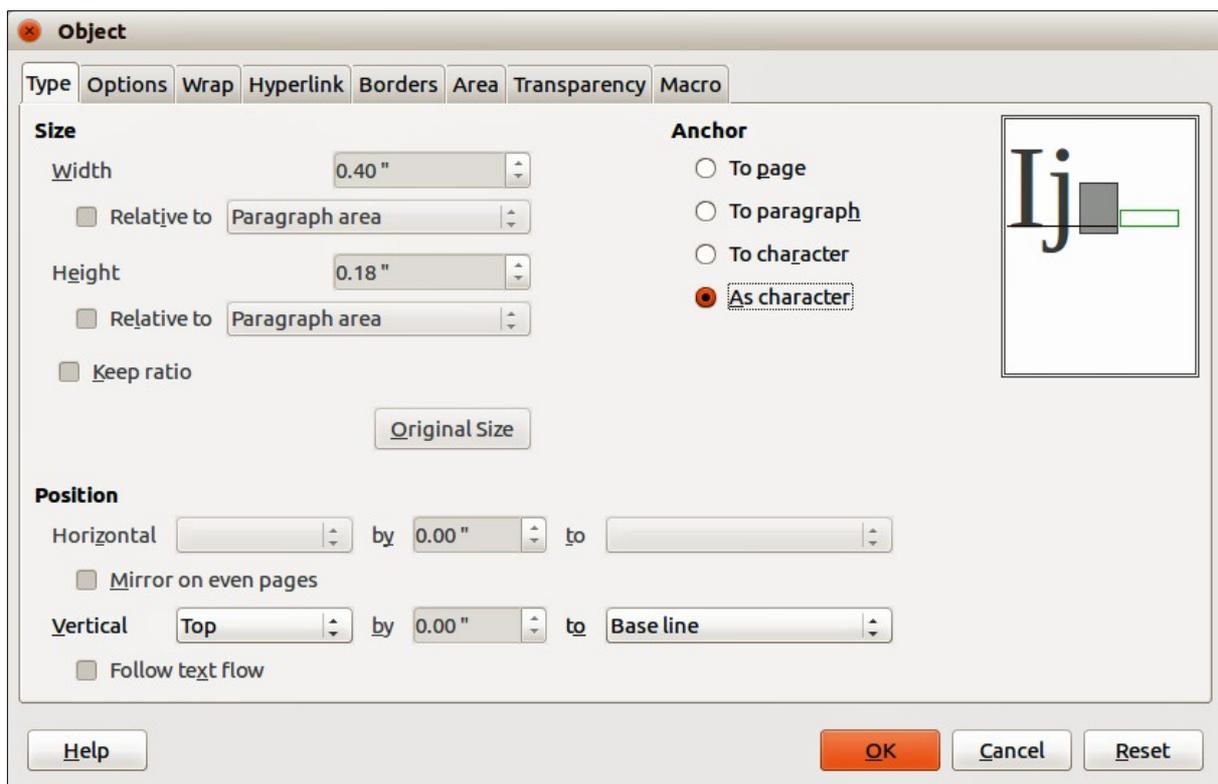
Figure 276: Object dialog – Type page with Anchor options

Note

The anchoring options are not available in the Object dialog when you are making changes to the various options available for frame styles. For more information on how to modify frame styles, please refer to the chapters on styles in the *Writer Guide*.

Vertical alignment

The normal default setting for vertical alignment for formula objects is to use the text base line as a reference. This default setting can be changed by modifying the formula frame style, see the chapters on styles in the *Writer Guide* for more information.

To change the vertical alignment position of an individual formula object:

1) Right-click on the selected formula object and select **Object** from the context menu, or go to **Format > Frame/Object** to open the Object dialog (Figure 277).

2) Make sure the **Type** page is selected and select a new alignment position from the drop-down list in the *Position* section. The vertical alignment options available are **Top**, **Bottom**, **Center** or **From bottom**.

3) If necessary, type in the text box a plus or minus value for vertical alignment. This option is only available if **From bottom** vertical alignment has been selected.

4) Select the type of text alignment from the drop-down list in the *Position* section. The text alignment options available are **Base line**, **Character** and **Row**.

5) Click **OK** to save your changes and close the Object dialog.
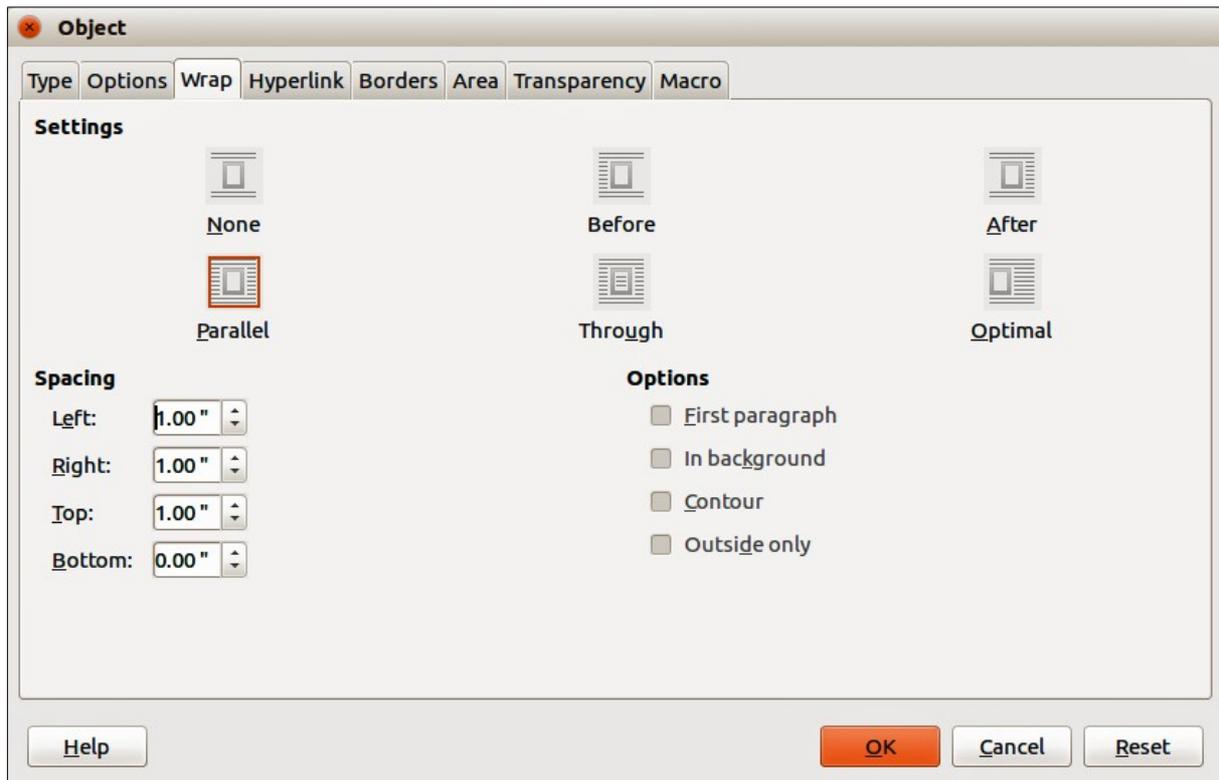
Figure 277: Object dialog – Wrap page

🟢 **Note**

> If the *Position* section in the Object dialog is grayed out and not available, then go to **Tools > Options > LibreOffice Writer > Formatting Aids** and uncheck the option *Math baseline alignment*. This setting is stored with the document and applies to all formulas within it. Any new documents created will also use this setting for *Math baseline alignment*.

Object spacing

A formula object, when inserted into a Writer document, has spacing on each side. The default value used for spacing is set within the frame style for formula objects and can be changed by modifying the formula frame style, see the chapters on styles in the *Writer Guide* for more information.

You can individually adjust the spacing for each formula object within your document as follows:

1) Create the formula in your Writer document.
2) Right-click on the selected formula object and select **Object** from the context menu, or go to **Format > Frame/Object** on the menu bar to open the Object dialog.
3) Click on the **Wrap** tab to open the Wrap page in the Object dialog (Figure 277).
4) In the **Spacing** section, enter the spacing value for *Left*, *Right*, *Top* and *Bottom* spacing.
5) Click **OK** to save your changes and close the Object dialog.

Text mode

In large formulas placed within a line of text, the formula elements can often be higher than the text height. Therefore, to make large formulas easier to read, it is recommended to always insert large formulas into a separate paragraph of their own so that it is separated from text.

However, if it is necessary to place a large formula within a line of text, double-click on the formula to open the Formula Editor and then go to **Format > Text Mode** on the menu bar. The Formula Editor will try to shrink the formula to fit the text height. The numerators and denominators of fractions are shrunk, and the limits of integrals and sums are placed beside the integral/sum sign, as shown in the following example.

Example

A formula in a separate paragraph:

$$\sum_{i=2}^{5} i^2$$

and the same formula embedded into a line of text using text mode format: $\sum_{i=2}^{5} i^2$

Background and borders

The default setting for background (area fill) and borders for formula objects is set by the formula frame style. To change this default setting for formula frame style, refer to the chapters on styles in the *Writer Guide*. However, for individual formulas in your document, you can change the background and borders.

Note

The size of the frame that a formula is placed in when inserted into a document cannot be changed. The frame size for a formula object depends on the setting of the formula font size; see the *Math Guide* for more information.

Backgrounds

1) In the document, select the formula where you change the background.
2) Right-click on the formula and select **Object** from the context menu, or go to **Format > Frame/Object** on the menu bar to open the object dialog.
3) Click on the **Area** tab and select the type of fill you want to use for the formula from the *Fill* drop-down list (Figure 278).
4) Select the options you want to use for the formula background. The options change depending on the type of fill selected.
5) Click **OK** to save your changes and close the Object dialog.
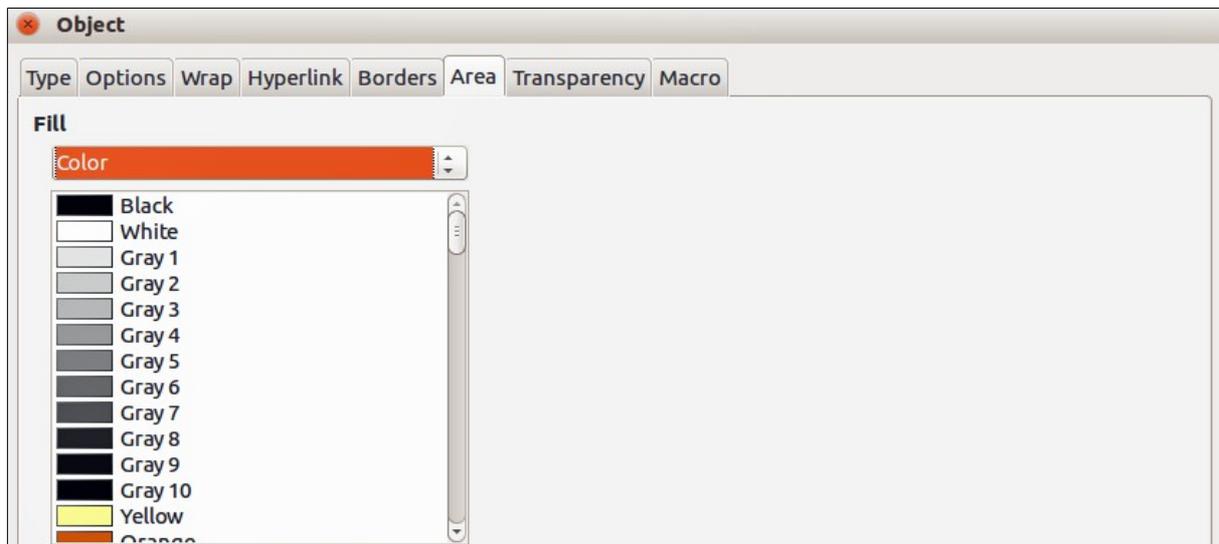
Figure 278: Object dialog – Area page

Borders

1) In the document, select the formula where you want to change the borders.

2) Right-click on the formula and select **Object** from the context menu, or go to **Format > Frame/Object** on the menu bar to open the object dialog.

3) Click on the **Borders** tab and select the options you want to use for the formula borders (Figure 279).

4) Click **OK** to save your changes and close the Object dialog.
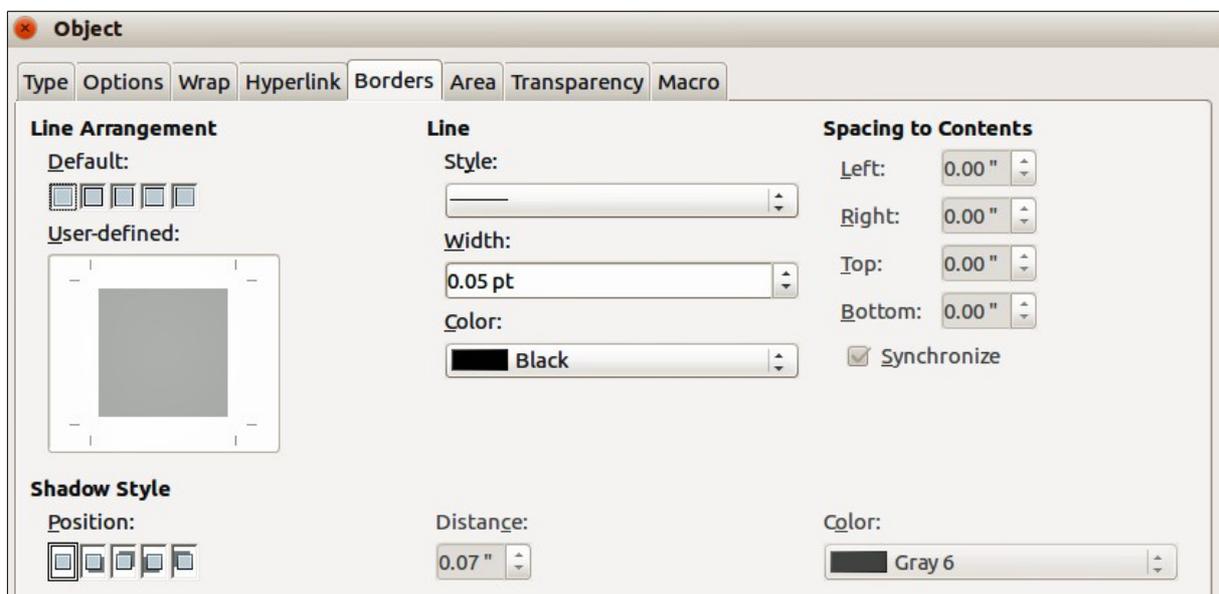
Figure 279: Object dialog – Borders page

Quick insertion of formulas

To quickly insert a formula into a Writer document without opening the Formula Editor, where you know the markup language for the formula:

1) Enter the formula markup language into the document at the position where you want the formula.

2) Select the markup language.

3) Go to **Insert > Object** on the menu bar and select **Formula**, or click on the **Formula** icon on the Standard toolbar to create a formula from the selected markup language.

🟢 **Note**

If the **Formula** icon is not displayed on the Standard toolbar, then right-click in an empty area on the toolbar, select **Visible Buttons** from the context menu, then select **Formula** from the available options.

Formulas in Calc, Draw, and Impress

In Calc, Draw, and Impress, formulas are inserted as OLE objects without any background (area fill) or borders. See the *Math Guide* for more information.

Each formula object is inserted into a spreadsheet, drawing, or slide as follows:

- In Calc, formulas are inserted into a selected cell in a spreadsheet with no style assigned to the formula object.

- In Draw and Impress, formulas are inserted into a central position on a drawing or slide and, by default, are assigned the drawing object style *Object with no fill and no line*. For more information on how to modify or assign drawing object styles, see the *Draw Guide* or the *Impress Guide*.

Anchoring formulas

Calc

A formula object can be anchored into a spreadsheet as **To Page** (default setting), or as **To Cell**. To change the anchoring type of formulas in a Calc spreadsheet:

1) Select the formula object in the spreadsheet.

2) Right-click on the formula and select **Anchor > To Page** or **To Cell** from the context menu

3) Alternatively, go to **Format > Anchor** on the menu bar and select **To Page** or **To Cell**.

Draw and Impress

When a formula is inserted into a drawing or slide, it is inserted as a floating OLE object and is not anchored to any particular position in a drawing or slide.

Formula object properties

Formula objects in Calc, Draw, and Impress can be modified just like any other object that has been placed in a spreadsheet, drawing, or presentation, with the exception of formula object size and changing the format of any text within a formula. For more information on how to change object properties, see the *Calc Guide*, *Draw Guide*, and *Impress Guide*. For more information on formula object size and formatting formula text, see the *Math Guide*.

The following points will help you select which dialog to use if you want to change the properties of formula objects.

- For formula backgrounds, use the various options in the pages of the Area dialog.

- For formula borders, use the various options in the Line dialog. Note that formula borders are separate from cell borders in a Calc spreadsheet.

- To accurately re-position a formula object, use the various options in pages of the Position and Size dialog.

- In Draw and Impress, you can be arrange, align, group, flip, convert, break, combine and edit points of formula objects.

- You cannot change the text attributes of a formula object. The text used in a formula is set when you create the formula in the Formula Editor.

- Formula object size is set by the formula font size when the formula is created in the Formula Editor. The formula object size is protected in the Position and Size dialog, but this can be deselected if you so wish. However, this is not recommended as resizing a formula object using the Position and Size dialog could lead to distortion of a formula making it difficult to read.

Formulas in charts

A chart in a Calc spreadsheet is itself an OLE object, therefore, you cannot use the Formula Editor to create and insert a formula into a chart.

To insert a formula into a chart, create the formula first using the Formula Editor and copy the formula to the clipboard. You then create the chart in Calc and paste your formula into the chart. The formula is automatically converted into the correct format for insertion into a chart.

If you want to change the formula at a later date, then you must repeat the whole process of creating, copying and pasting.

Chapter 10
Printing, Exporting, E-mailing

Quick printing

Click the **Print File Directly** icon (⊟) to send the entire document to the default printer defined for your computer.

🟢 **Note**

> You can change the action of the **Print File Directly** icon to send the document to the printer defined for the document instead of the default printer for the computer. Go to **Tools > Options > Load/Save > General** and select the **Load printer settings with the document** option.

Controlling printing

For more control over printing, use the Print dialog (**File > Print** or *Ctrl+P*).
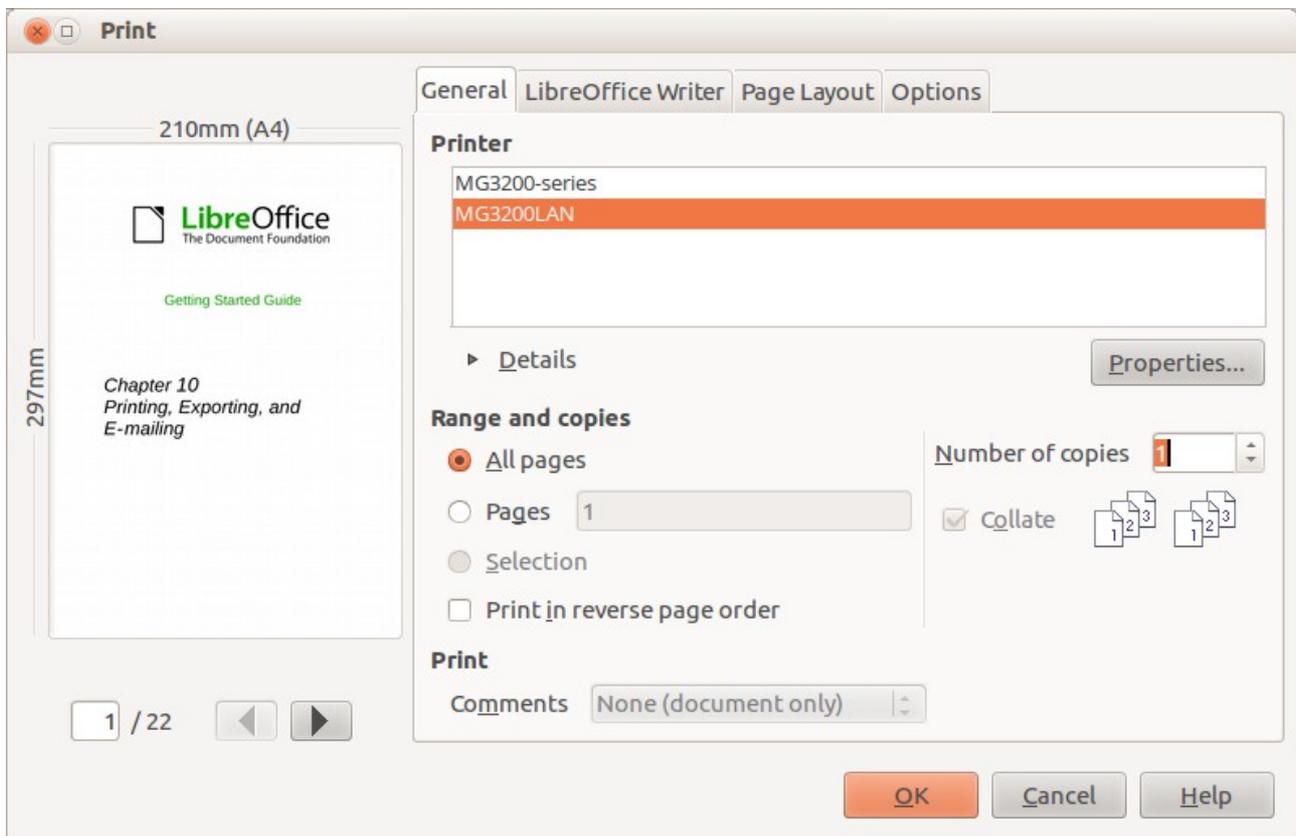
Figure 280: The Print dialog

🟢 **Note**

> The options selected on the Print dialog apply to this printing of this document only.
>
> To specify default printing settings for LibreOffice, go to **Tools > Options > LibreOffice > Print** and **Tools > Options > LibreOffice [Component] > Print**. See Chapter 2, Setting Up LibreOffice, for more details.

The Print dialog has four pages, from which you can choose a range of options, as described in the following sections.

The different components of LibreOffice have different available print settings, as summarized in Table 6.

Table 6: Print options in LibreOffice components

Feature	Writer	Calc	Impress	Draw
Select pages/sheets/slides to print	Yes	Yes	Yes	Yes
Print multiple pages/sheets/slides on one page	Yes	Yes	Yes	Yes
Print a brochure	Yes	No	Yes	Yes
Print envelopes	Yes	No	No	No
Print labels or business cards	Yes	No	No	No
Preview pages/sheets before printing	Yes	Yes	No	No

Selecting general printing options

On the *General* tab of the Print dialog, you can choose:

- The **printer** (from the printers available).
- Which **pages** to print, the number of copies to print, and whether to collate multiple copies (*Range and copies* section).
- Whether to print any **comments** that are in the document, and where to print the comments.

Some selections may not be available all the time. For example, if the document contains no comments, the Print – Comments drop-down list does not work.
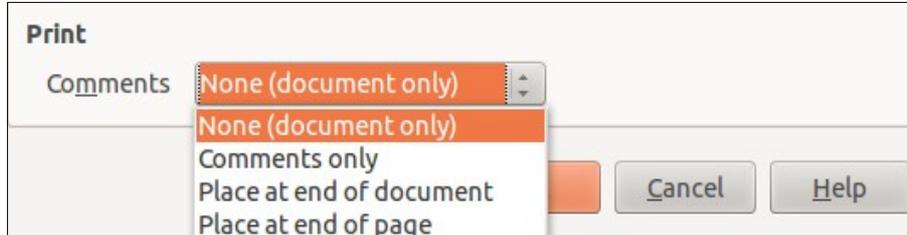
Figure 281: Choosing whether and where to print comments

Select the **Properties** button to display the selected printer's properties dialog where you can choose portrait or landscape orientation, which paper tray to use, and the paper size to print on.

On the Options tab of the Print dialog (Figure 282), the last item, *Use only paper tray from printer preference*, is not available in Calc.
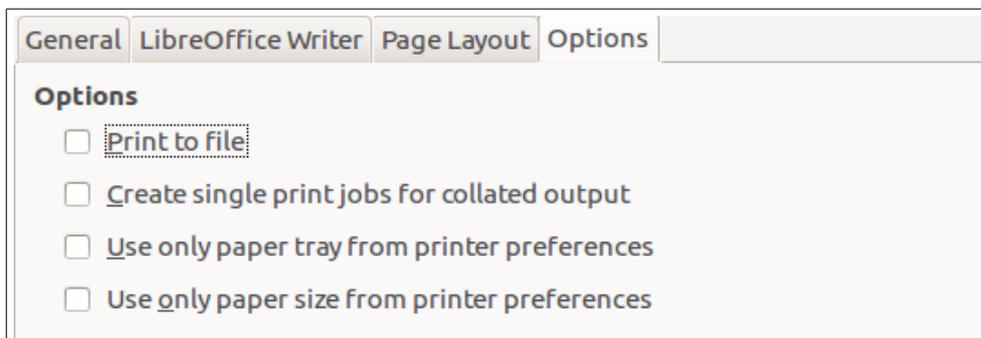
Figure 282: General print options

Printing multiple pages on a single sheet of paper

You can print multiple pages of a document on one sheet of paper. To do this:

1) In the Print dialog, select the Page Layout tab (Figure 283).
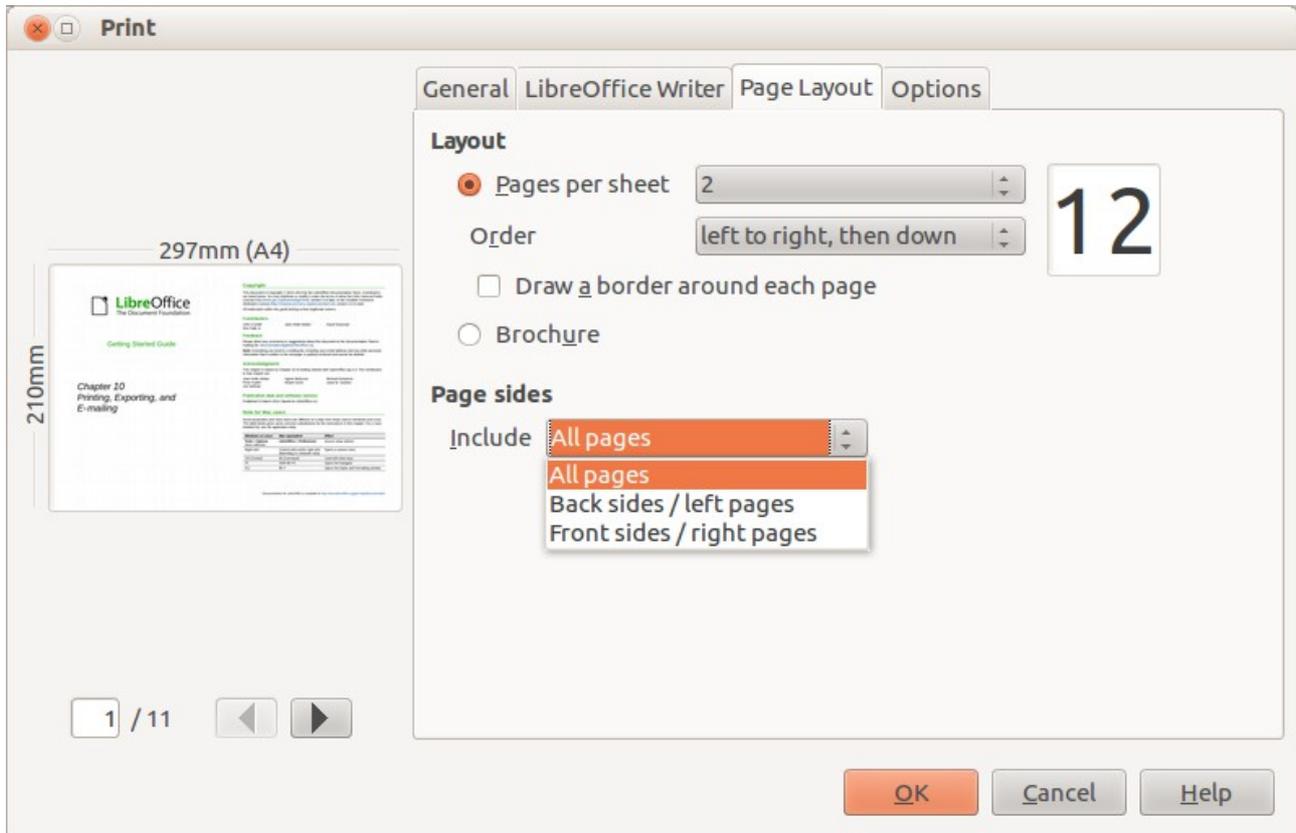
Figure 283: Printing multiple page per sheet of paper

2) In the *Layout* section, select from the drop-down list the number of pages to print per sheet. The preview panel on the left of the Print dialog shows how the printed document will look.

When printing more than 2 pages per sheet, you can choose the order in which they are printing across and down the paper.
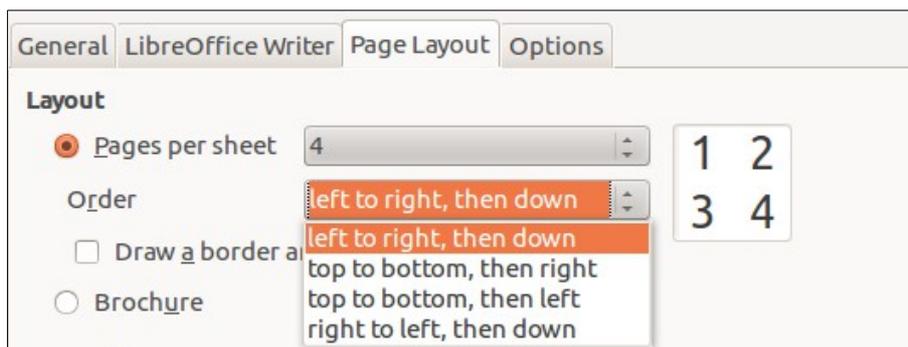
3) In the *Page sides* section, select whether to print all pages or only some pages. Click the **OK** button.

> ▶ **Tip**
>
> In Writer, to print two pages per sheet in "facing pages" (book layout) style, print from Print Preview instead. See page 299.

Selecting pages/sheets/slides to print

In addition to printing a full document, you can choose to print individual pages/sheets/slides, ranges of pages/sheets/slides, or a selection of a document. The details vary slightly in Writer, Calc, Draw and Impress, as described in this section.

Writer

Printing an individual page:

1) Choose **File > Print** from the Menu bar, or press *Ctrl+P*.

2) On the Print dialog, select the page to print.

   a) In the *Range and copies* section of the General page, select the **Pages** option. The text input box displays the current page number.

   b) Enter the page number of the page you want to print. The preview box changes to show the selected page.

3) Click **OK**.

Printing a range of pages:

1) Choose **File > Print** from the Menu bar, or press *Ctrl+P*.

2) On the Print dialog, select the range of pages to print.

   a) In the *Range and copies* section of the General page, select the **Pages** option.

   b) Enter the sequence numbers of the pages to print (for example, 1–4 or 1,3,7,11).

3) Click **OK**.

Printing a selection of text:

1) In the document, select the material (text and graphics) to print.

2) Choose **File > Print** from the Menu bar, or press *Ctrl+P*.

3) The *Range and copies* section of the Print dialog now includes a **Selection** option and the preview box shows the selected material. See Figure 284.

4) Click **OK**.
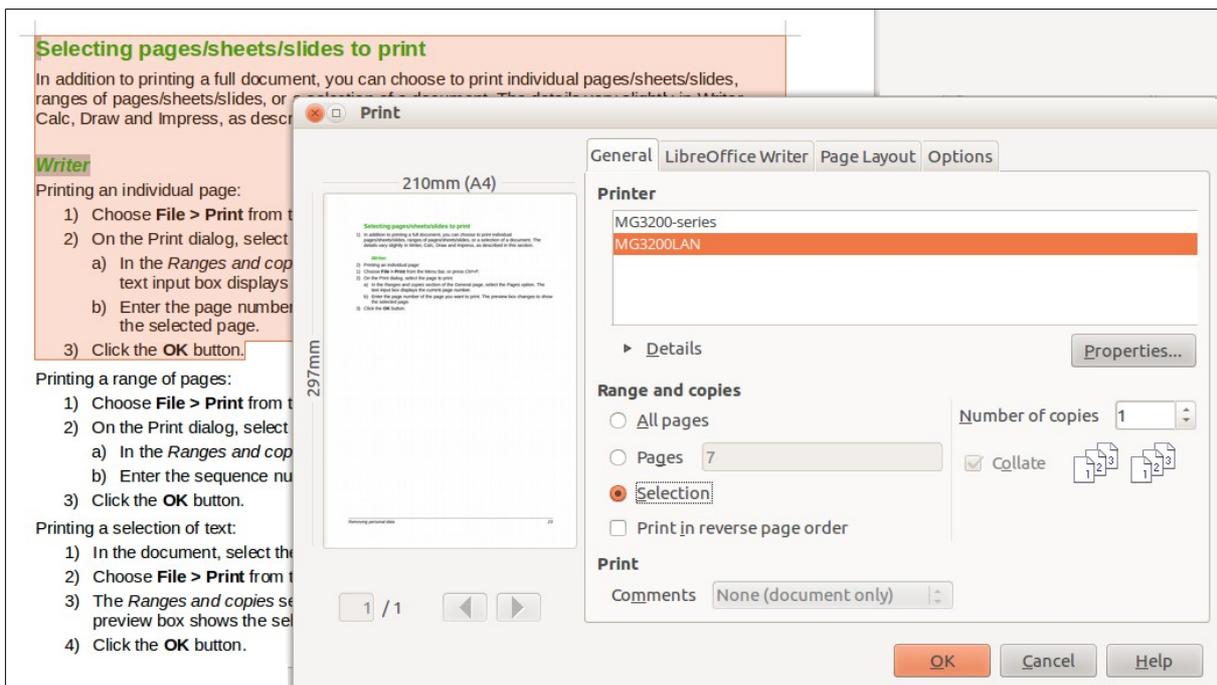
Figure 284: Printing a selection of text

Calc

You can choose single sheets, multiple sheets, and selections of cells for printing.
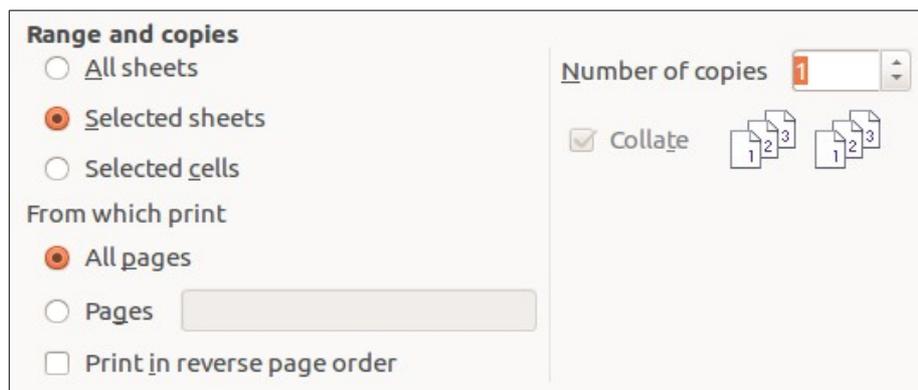
Figure 285: Choosing what to print in Calc

Printing an individual sheet:

1) In the spreadsheet, click on the sheet tab to select the sheet you want to print.
2) Choose **File > Print** from the Menu bar, or press *Ctrl+P*.
3) In the *Range and copies* section of the Print dialog, choose the **Selected sheets** option.
4) Click **OK**.

Printing a range of sheets:

1) In the spreadsheet, select the sheets to print.
   a) Select the first sheet.
   b) Hold down the *Control* key.
   c) Click on the additional sheet tabs.
   d) Release the *Control* key when all required sheets are selected.
2) Choose **File > Print** from the Menu bar, or press *Ctrl+P*.
3) In the *Range and copies* section of the Print dialog, choose the **Selected sheets** option.
4) Click **OK**.

Printing a selection of cells:

1) In the document, select the section of cells to print.
2) Choose **File > Print** from the Menu bar, or press *Ctrl+P*.
3) In the *Ranges and copies* section of the Print dialog, select the *Selected cells* option.
4) Click **OK**.

> **Caution**
>
> After printing, be sure to deselect the extra sheets. If you keep them selected, the next time you enter data on one sheet, you enter data on all the selected sheets. This might not be what you want.

Impress and Draw

You can choose individual slides, ranges of slides, or selections of slides for printing.
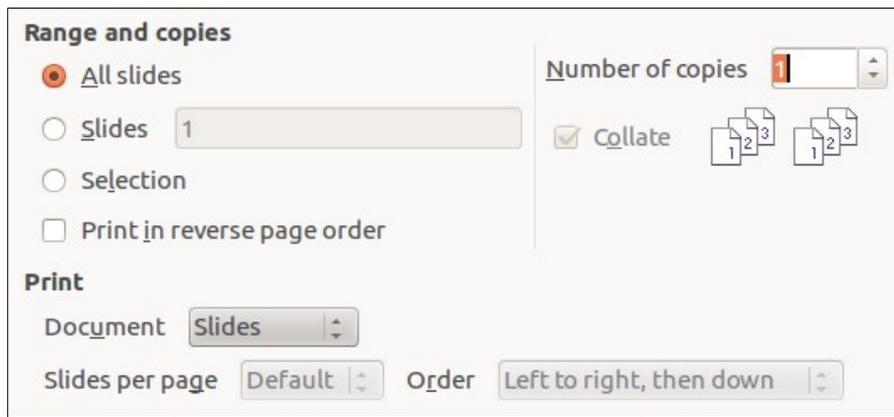
Figure 286: Choosing what to print in Impress and Draw

Printing an individual slide:

1) Choose **File > Print** from the Menu bar, or press *Ctrl+P*.

2) Select the slide to print.

   a) In the *Range and copies* section of the Print dialog, select the **Slides** option.

   b) Enter the number of the slide to print.

3) Click **OK**.

Printing a range of slides:

1) Choose **File > Print** from the Menu bar, or press *Ctrl+P*.

2) Select the slides to print.

   a) In the *Range and copies* section of the Print dialog, select the **Slides** option.

   b) Enter the number of the slides to print (for example 1-4 or 1,3,7,11).

3) Click **OK**.

Printing a selection from a slide, or a selection from multiple slides:

1) In the document, select the section of the slide to print.

2) Choose **File > Print** from the Menu bar, or press *Ctrl+P*.

3) Select the **Selection** option in the *Range and copies* section of the Print dialog.

4) Click **OK**.

Printing handouts, notes, or outlines in Impress

Handouts prints the slides in reduced size on the page, from one to nine slides per page. The slides can be printed horizontally (landscape orientation) or vertically (portrait orientation) on the page.

Notes prints a single slide per page with any notes entered for that slide in Notes View.

Outline prints the title and headings of each slide in outline format.

To print handouts, notes, or outlines:

1) Choose **File > Print** from the Menu bar, or press *Ctrl+P*.

2) In the Print section of the Print dialog, select the required option.

3) For Handouts, you can then choose how many slides to print per page, and the order in which they are printed.

4) Click **OK**.
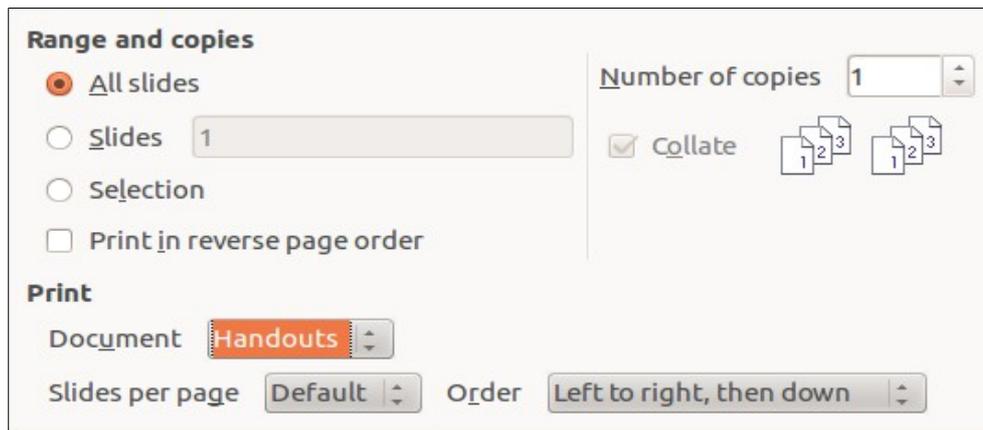
Printing a brochure

In Writer, Impress, and Draw, you can print a document with two pages on each side of a sheet of paper, arranged so that when the printed pages are folded in half, the pages are in the correct order to form a booklet or brochure.

> ▶ **Tip**
>
> Plan your document so it will look good when printed half size; choose appropriate margins, font sizes, and so on. You may need to experiment.

To print a brochure on a single-sided printer:

1) Choose **File > Print**, or press *Ctrl+P*.

2) In the Print dialog, click **Properties**.

3) Check the printer is set to the same orientation (portrait or landscape) as specified in the page setup for your document. Usually the orientation does not matter, but it does for brochures. Click **OK** to return to the Print dialog.

4) Select the *Page layout* tab in the Print dialog.

5) Select the **Brochure** option.

6) In the *Page sides* section, select the **Back sides / left pages** option from the **Include** drop-down list. Click **OK**.
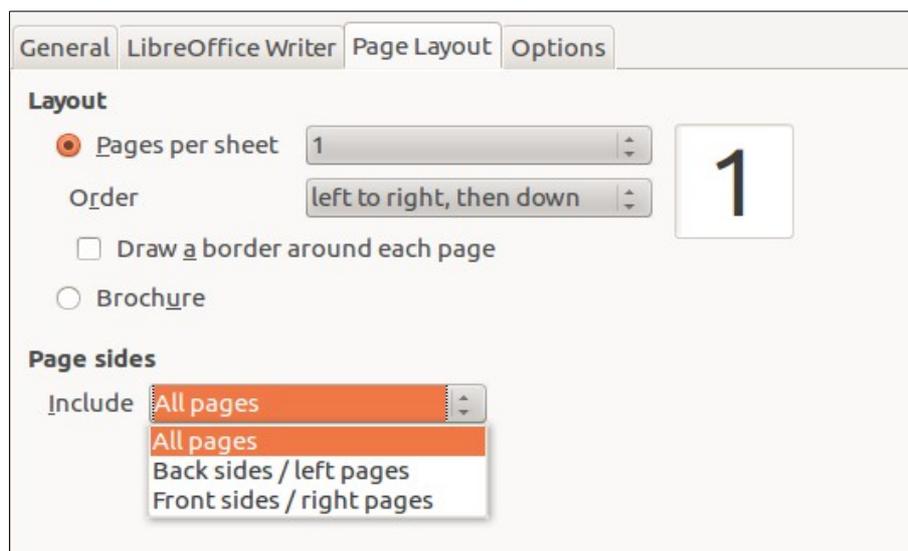
Figure 287: Selecting which pages to print

7) Take the printed pages out of the printer, turn the pages over, and put them back into the printer in the correct orientation to print on the blank side. You may need to experiment a bit to find out what the correct arrangement is for your printer.

8) On the Print dialog, in the Page sides section, select the **Front sides / right pages** option from the Include drop-down box. Click **OK**.

> **Tip**
>
> If your printer can print double-sided automatically, choose All pages.

Printing envelopes, labels, business cards

Printing envelopes, labels, or business cards using Writer involves two steps: setup and printing.

For details of how to set these up, see Chapter 11, Using Mail Merge, in the *Writer Guide*. To print:

1) Choose **File > Print** from the Menu bar, or press *Ctrl+P*.

2) On the Print dialog, under *Range and copies*, choose **Pages** and type 1 in the box. Click **OK**.

Printing in black and white (on a color printer)

You may wish to print documents in black and white on a color printer. Several choices are available. Please note that some color printers may print in color regardless of the settings you choose.

Change the printer settings to print in black and white or grayscale:

1) Choose **File > Print**, or press *Ctrl+P,* to open the Print dialog.

2) Click **Properties** to open the Properties dialog for the printer. The available choices vary from one printer to another, but you should find options for the Color settings. See your printer's help or user manual for more information.

3) The choices for color might include *black and white* or *grayscale*. Choose the required setting.

4) Click **OK** to confirm your choice and return to the Print dialog,

5) Click **OK** to print the document.

> **Tip**
>
> Grayscale is best if you have any graphics in the document.

Change the LibreOffice settings to print all color text and graphics as grayscale:

1) Choose **Tools > Options > LibreOffice > Print**.

2) Select the **Convert colors to grayscale** option. Click **OK** to save the change.

3) Open the Print dialog (**File > Print**), or press *Ctrl+P.*

4) Click **OK** to print the document.

Change the LibreOffice Writer (or Calc, Impress, Draw) settings to print all color text as black, and all graphics as grayscale:

1) Choose **Tools > Options > LibreOffice Writer > Print**.

2) Under *Contents*, select the **Print text in black** option. Click **OK** to save the change.

3) Open the Print dialog (**File > Print**), or press *Ctrl+P*.

4) Click **OK** to print the document.

Previewing pages/sheets before printing

You can use the previewing options in Writer and Calc to view the document as it will be printed. Different viewing options are available.

Writer

The normal page view in Writer shows you what each page will look like when printed and you can edit the pages in that view. If you are designing a document to be printed double-sided, you may want to see what facing pages look like. Writer provides two ways to do this:

- View Layout (editable view): use the Facing Pages (Book view) button on the status bar.

- Print Preview (read-only view).

To use Print Preview:

1) Choose **File > Print Preview**, click the **Print Preview** button ( ) on the Standard toolbar or press *Ctrl+Shift+O*.

   Writer now displays the **Print Preview** toolbar instead of the Formatting toolbar.

Figure 288: Print Preview toolbar (Writer)

2) Select the required preview icon: **Two Pages** ( ), **Multiple Pages** ( ) or **Book Preview** ( ).

3) To print the document from this view, click the **Print** icon ( ) to open the Print dialog. Choose the print options and click the **OK** button.

Calc

To preview the sheets in Calc before printing:

1) Choose **File > Print Preview**.

   The Calc window now displays the **Print Preview** toolbar instead of the Formatting toolbar.
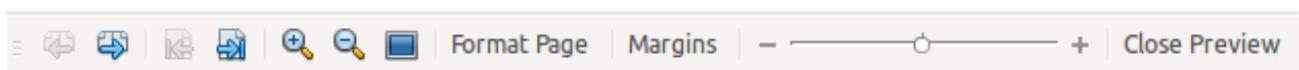
Figure 289: Print Preview toolbar (Calc)

2) To print the document from this view, click the **Print** icon ( ) to open the Print dialog.

3) Choose the print options and click the **Print button**.

Exporting to PDF

LibreOffice can export documents to PDF (Portable Document Format). This industry-standard file format is ideal for sending the file to someone else to view using Adobe Reader or other PDF viewers.

The process and dialogs are the same for Writer, Calc, Impress, and Draw, with a few minor differences mentioned in this section.

Quick export to PDF

Click the **Export Directly as PDF** icon ( ) to export the entire document using the PDF settings you most recently selected on the PDF Options dialog (see below). You are asked to enter the file name and location for the PDF file, but you do not get a chance to choose a page range, the image compression, or other options.

Controlling PDF content and quality

For more control over the content and quality of the resulting PDF, use **File > Export as PDF**. The PDF Options dialog opens. This dialog has six pages (General, Initial View, User Interface, Links, Security, and Digital Signatures). Select the appropriate settings, and then click **Export.** Then you are asked to enter the location and file name of the PDF to be created, and click **Save** to export the file.

🟢 **Note**

> Another choice is to use **File > Export**. This opens the Export dialog. Select the PDF file format, file name and location and click **Export**. This then opens the PDF Options dialog. Click **Export** when all the selections have been made.

General page of PDF Options dialog

On the *General* page, you can choose which pages to include in the PDF, the type of compression to use for images (which affects the quality of images in the PDF), and other options.
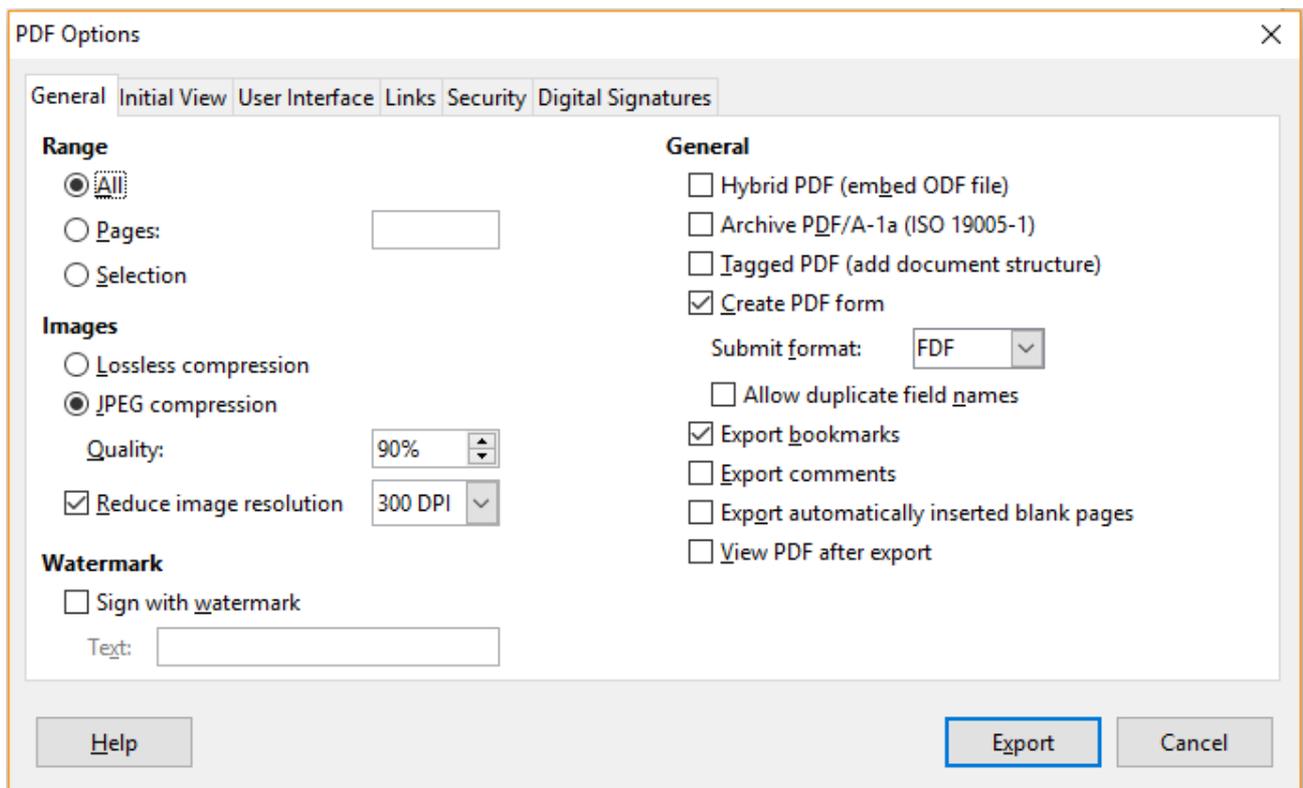
Figure 290: General page of PDF Options dialog

Range section

- **All**: Exports the entire document to PDF.

- **Pages**: To export a range of pages, use the format **3-6** (pages 3 to 6). To export single pages, use the format **7;9;11** (pages 7, 9 and 11). You can also export a combination of page ranges and single pages, by using a format like **3-6;8;10;12**.

- **Selection**: Exports all the selected material.

Images section

- **Lossless compression**: Images are stored without any loss of quality. Tends to make large files when used with photographs. Recommended for other kinds of images or graphics.

- **JPEG compression**: Allows for varying degrees of quality. A setting of 90% works well with photographs (small file size, little perceptible loss of quality).

- **Reduce image resolution**: Lower DPI (dots per inch) images have lower quality. For viewing on a computer screen, generally a resolution of 72dpi (for Windows) or 96dpi (GNU/Linux) is sufficient, while for printing it is generally preferable to use at least 300 or 600dpi, depending on the capability of the printer. Higher DPI settings greatly increase the size of the exported file.

🟢 Note

EPS (Encapsulated PostScript) images with embedded previews are exported only as previews. EPS images without embedded previews are exported as empty placeholders.

Watermark section

- **Sign with Watermark:** When this option is selected, a transparent overlay of the text you enter into the **Watermark Text** box will appear on each page of the PDF.

General section

- **Hybid PDF (embed ODF file)**: Use this setting to export the document as a PDF file containing two file formats: PDF and ODF. In PDF viewers it behaves like a normal PDF file, and it remains fully editable in LibreOffice.

- **Archive PDF/A-1a (ISO 19005-1)**: PDF/A is an ISO standard for long-term preservation of documents, by embedding all the information necessary for faithful reproduction (such as fonts) while forbidding other elements (including forms, security, and encryption). PDF tags are written. If you select PDF/A-1a, the forbidden elements are grayed-out (not available).

- **Tagged PDF**: Tagged PDF contains information about the structure of the document's contents. This can help to display the document on devices with different screens, and when using screen reader software. Some tags that are exported are table of contents, hyperlinks, and controls. This option can increase file sizes significantly.

- **Create PDF form – Submit format:** Choose the format of submitting forms from within the PDF file. This setting overrides the control's URL property that you set in the document. There is only one common setting valid for the whole PDF document: PDF (sends the whole document), FDF (sends the control contents), HTML, and XML. Most often you will choose the PDF format.

    Allow duplicate field names: If enabled, the same field name can be used for multiple fields in the generated PDF file. If disabled, field names will be exported using generated unique names.

- **Export bookmarks**: Exports headings in Writer documents, and page or slide names in Impress and Draw documents, as "bookmarks" (a table of contents list displayed by most PDF viewers, including Adobe Reader).

- **Export comments**: Exports comments as PDF notes. You may not want this!

- **Export automatically inserted blank pages**: If selected, automatically inserted blank pages are exported to the PDF. This is best if you are printing the PDF double-sided. For example, books usually have chapters set to always start on an odd-numbered (right-hand) page. When the previous chapter ends on an odd page, LibreOffice inserts a blank page between the two odd pages. This option controls whether to export that blank page.

- **View PDF after export:** Your default PDF viewer will open and display the newly exported PDF.

Initial View page of PDF Options dialog

On the *Initial View* page (Figure 291), you can choose how the PDF opens by default in a PDF viewer. The selections should be self-explanatory.

If you have Complex Text Layout enabled (in **Tools > Options > Language settings > Languages**), an additional selection is available under *Continuous facing*: **First page is left** (normally, the first page is on the right when using the *Continuous facing* option).
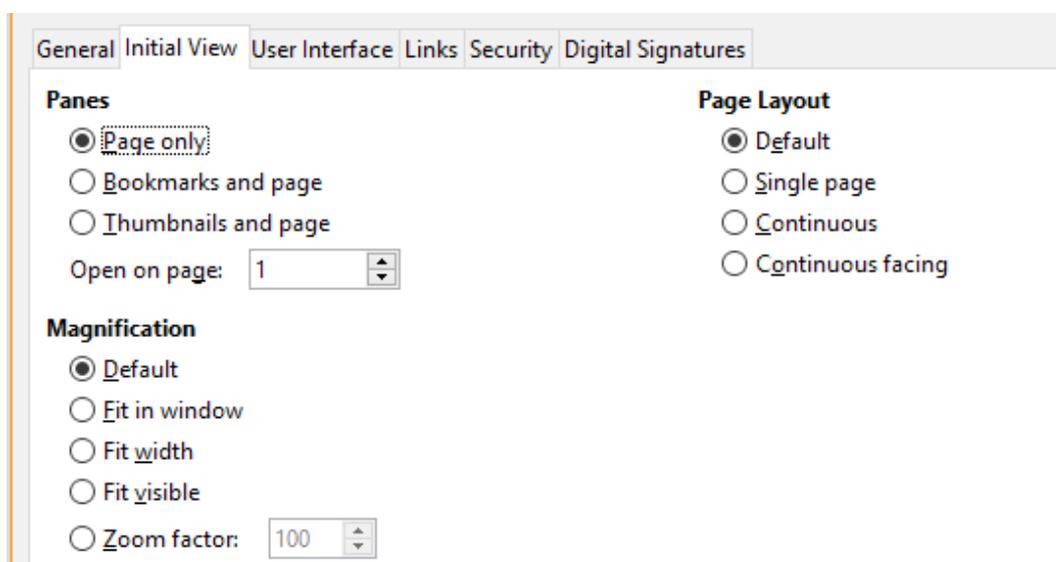
Figure 291: Initial View page of PDF Options dialog

User Interface page of PDF Options dialog

On the *User Interface* page, you can choose more settings to control how a PDF viewer displays the file. Some of these choices are particularly useful when you are creating a PDF to be used as a presentation or a kiosk-type display.
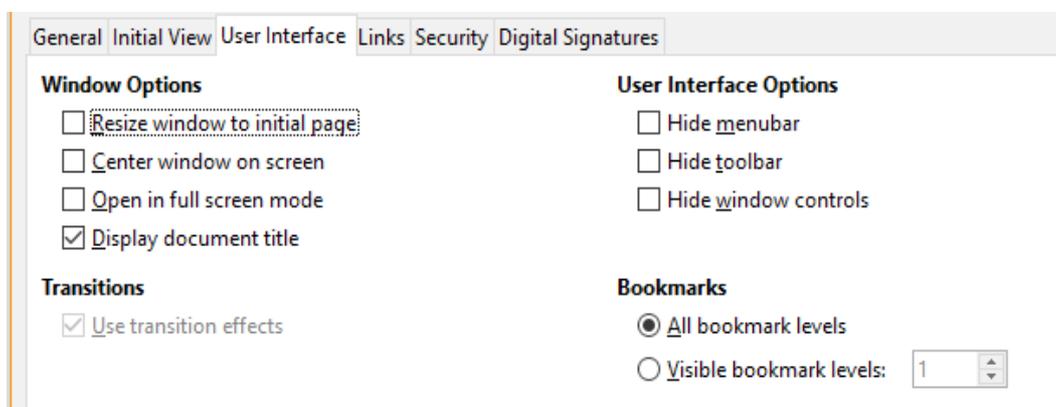
Figure 292: User Interface page of the PDF Options dialog

Window options section
- **Resize window to initial page.** Causes the PDF viewer window to resize to fit the first page of the PDF.
- **Center window on screen.** Causes the PDF viewer window to be centered on the computer screen.
- **Open in full screen mode.** Causes the PDF viewer to open full-screen instead of in a smaller window.
- **Display document title.** Causes the PDF viewer to display the document's title in the title bar.

User interface options section
- **Hide menubar.** Causes the PDF viewer to hide the menu bar.
- **Hide toolbar.** Causes the PDF viewer to hide the toolbar.
- **Hide window controls.** Causes the PDF viewer to hide other window controls.

Transitions
In Impress, displays slide transition effects as their respective PDF effects.

Bookmarks
Select how many heading levels are displayed as bookmarks, if *Export bookmarks* is selected on the General page.

Links page of PDF Options dialog

On the Links page, you can choose how links are exported to PDF.
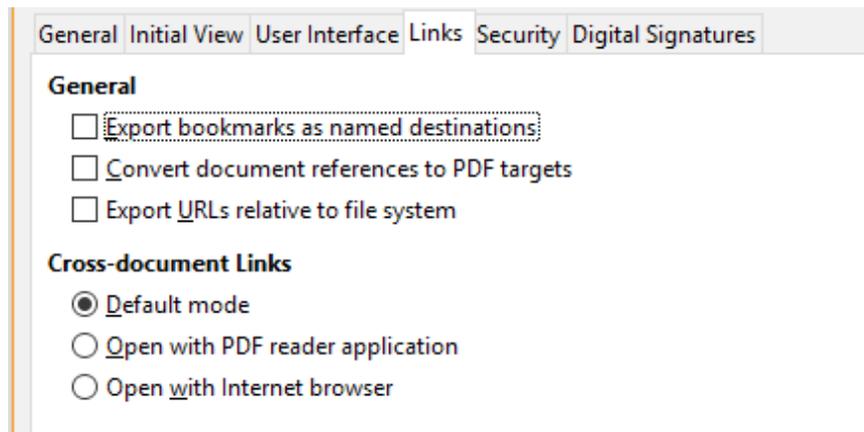
Figure 293: Links page of PDF Options dialog

Export bookmarks as named destinations
If you have defined Writer bookmarks, Impress or Draw slide names, or Calc sheet names, this option exports them as "named destinations" to which Web pages and PDF documents can link.

Convert document references to PDF targets
If you have defined links to other documents with OpenDocument extensions (such as .odt, .ods, and .odp), this option converts the files' extensions to .pdf in the exported PDF document.

Export URLs relative to file system
If you have defined relative links in a document, this option exports those links to the PDF.

Cross-document links
Defines the behavior of links clicked in PDF files. Select one among the following alternatives:

- **Default mode**: The PDF links will be handled as specified in your operating system.
- **Open with PDF reader application**: Use the same application used to display the PDF document to open linked PDF documents.
- **Open with Internet browser**: Use the default Internet browser to display linked PDF documents.

Security page of PDF Options dialog

PDF export includes options to encrypt the PDF (so it cannot be opened without a password) and apply some digital rights management (DRM) features.

- With an *open password* set, the PDF can only be opened with the password. Once opened, there are no restrictions on what the user can do with the document (for example, print, copy, or change it).
- With a *permissions password set*, the PDF can be opened by anyone, but its permissions can be restricted. See Figure 294. After you set a password for permissions, the other choices on the Security page become available.
- With *both* the open password and permission password set, the PDF can only be opened with the correct password, and its permissions can be restricted.

🟢 **Note**

Permissions settings are effective only if the user's PDF viewer respects the settings.
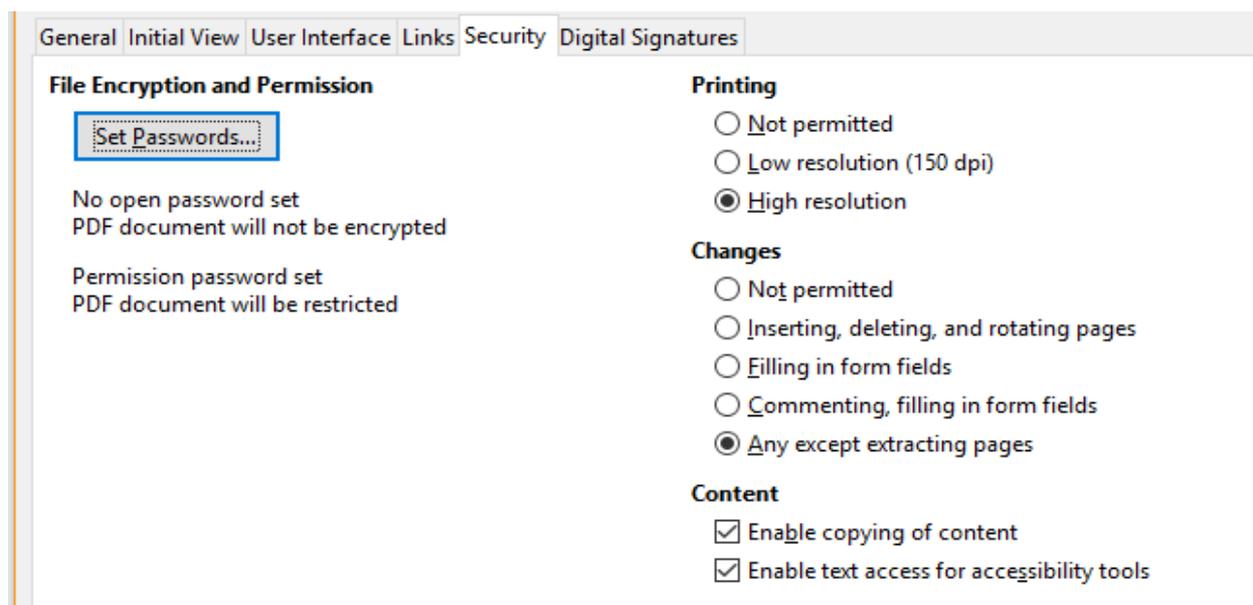
Figure 294: Security page of PDF Options dialog

Figure 295 shows the pop-up dialog displayed when you click the **Set passwords** button on the Security page of the PDF Options dialog.

When you have set all the options you require, click on **Export** to open the Export dialog, where you can set the file name and the save location.
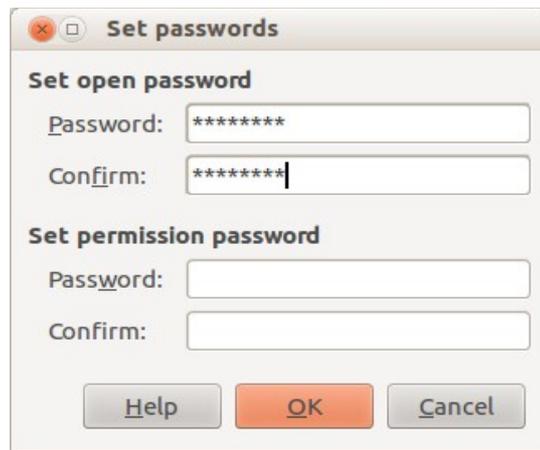
Figure 295: Setting a password to encrypt a PDF

Digital Signatures page of PDF Options dialog

This page contains the options related to exporting to a digitally signed PDF.

Digital signatures are used to ensure that the PDF was really created by the original author (that is, you), and that the document has not been modified since it was signed.

The signed PDF export uses the keys and X.509 certificates already stored in your default key store location or on a smartcard. The key store to be used can be selected under **Tools > Options > LibreOffice > Security > Certificate Path**. When using a smartcard, it must already be configured for use by your key store. This is usually done during installation of the smartcard software. Details about using these features is outside the scope of this chapter.
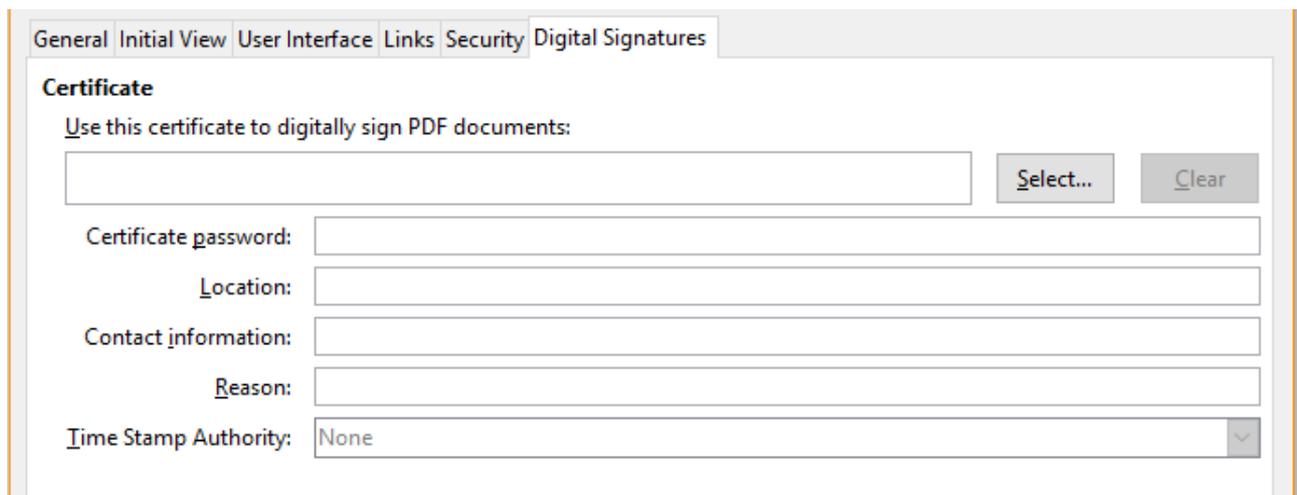
- **Use this certificate to digitally sign PDF documents:** Click **Select** to open the Select Certificate dialog, where all certificates found in your selected key store are displayed. If the key store is protected by a password, you are prompted for it. When using a smartcard that is protected by a PIN, you are also prompted for that.

  Select the certificate to use for digitally signing the exported PDF, then click **OK**.

  All other fields on the Digital Signatures tab are accessible only after a certificate has been selected.

- **Certificate password:** Enter the password used for protecting the private key associated with the selected certificate. Usually this is the key store password. If the key store password has already been entered in the Select Certificate dialog, the key store may already be unlocked and not require the password again.

When using a smartcard, enter the PIN here. Some smartcard software will prompt you for the PIN again before signing.

- **Location, Contact information, Reason:** Optionally enter additional information about the digital signature that will be applied to the PDF. This information will be embedded in the appropriate PDF fields and will be visible to anyone viewing the PDF. Each or all of the three fields may be left blank.

- **Time Stamp Authority:** Optionally select a Time Stamping Authority (TSA) URL. During the PDF signing process, the TSA will be used to obtain a digitally signed timestamp that is then embedded in the signature. Anyone viewing the PDF can use this timestamp to verify when the document was signed.

  The list of TSA URLs that can be selected is maintained under **Tools > Options > LibreOffice > Security > TSAs**. If no TSA URL is selected (the default), the signature will not be timestamped, but will use the current time from your local computer.

Exporting to other formats

LibreOffice uses the term "export" for some file operations involving a change of file type. If you cannot find what you want under **File > Save As**, look under **File > Export** as well.

LibreOffice can export files to XHTML. In addition, Draw and Impress can export to Adobe Flash (SWF) and a range of image formats.

To export to one of these formats, choose **File > Export**. On the Export dialog, specify a file name for the exported document, then select the required format in the *File format* list and click the **Export** button.

E-mailing documents

LibreOffice provides several ways to send documents quickly and easily as e-mail attachments in one of three formats: OpenDocument (LibreOffice's default format), Microsoft Office formats, or PDF.

🟢 Note

Documents can only be sent from the LibreOffice menu if a mail profile has been set up in **Tools > Options > LibreOffice Writer > Mail Merge E-mail**.

To send the current document in OpenDocument format:

1) Choose **File > Send > Document as E-mail**. LibreOffice opens your default e-mail program. The document is attached.
2) In your e-mail program, enter the recipient, subject, and any text you want to add, then send the e-mail.

File > Send > E-mail as OpenDocument [Text, **Spreadsheet**, or **Presentation]** has the same effect.

If you choose **E-mail as Microsoft [Word**, **Excel**, or **PowerPoint]**, LibreOffice first creates a file in one of those formats and then opens your e-mail program with the file attached.

Similarly, if you choose **E-mail as PDF**, LibreOffice first creates a PDF using your default PDF settings (as when using the **Export Directly as PDF** toolbar button) and then opens your email program with the PDF file attached.

E-mailing a document to several recipients

To e-mail a document to several recipients, you can use the features in your e-mail program or you can use LibreOffice's mail merge facilities to extract email addresses from an address book.

You can use LibreOffice's mail merge to send e-mail in two ways:

- Use the Mail Merge Wizard to create the document and send it. See Chapter 11, Using Mail Merge, in the *Writer Guide* for details.
- Create the document in Writer without using the Wizard, then use the Wizard to send it. This method is described here.

To use the Mail Merge Wizard to send a previously-created Writer document:

1) Click **Tools > Mail Merge Wizard**. On the first page of the wizard, select **Use the current document** and click **Next**.
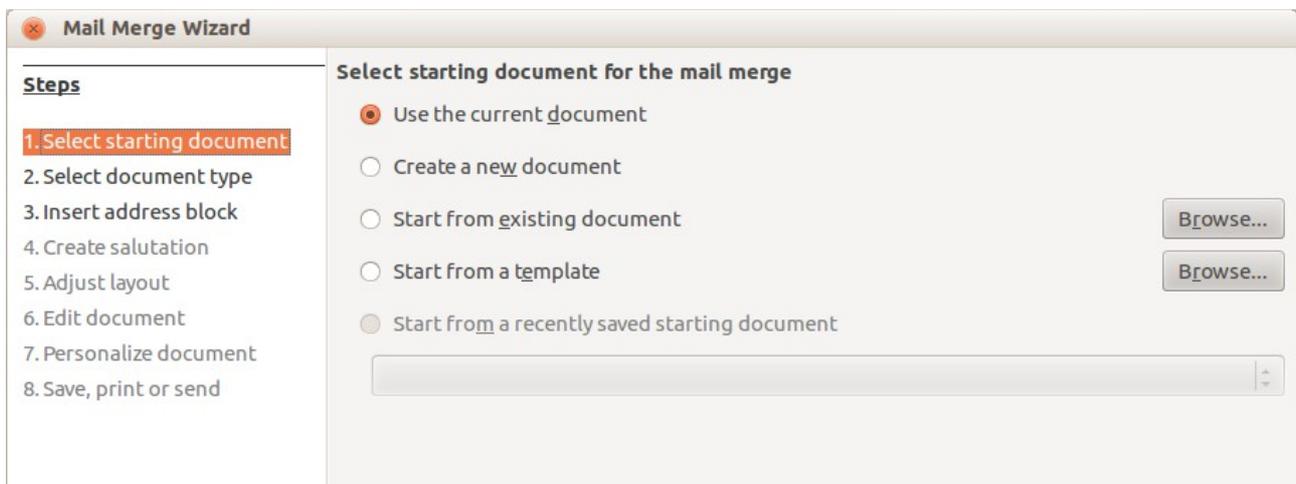
Figure 296: Select starting document

2) On the second page, select **E-mail message** and click **Next**.
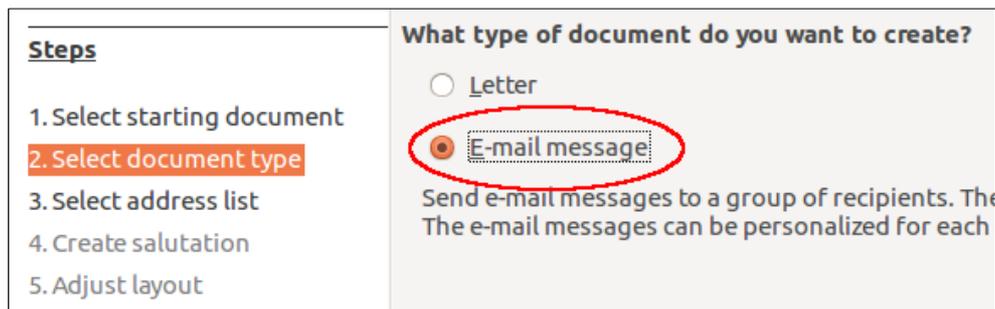
Figure 297: Select document type

3) On the third page, click the **Select Address List** button. Select the required address list (even if only one is shown) and then click **OK**. (If the address list you need is not shown here, you can click **Add** to find it and add it to the list.)
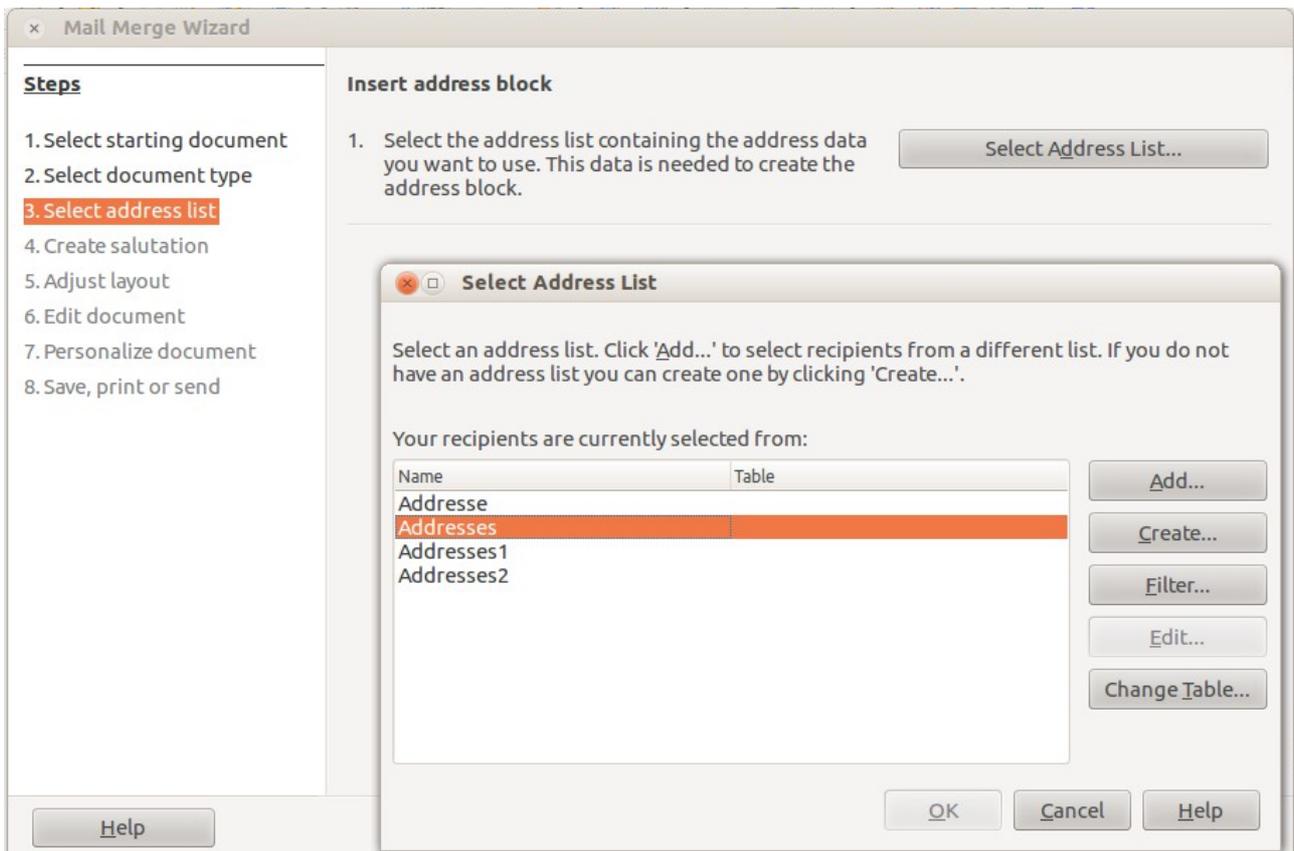
Figure 298: Selecting an address list

4) Back on the Select address list page, click **Next**. On the Create salutation page, deselect **This document should contain a salutation**.
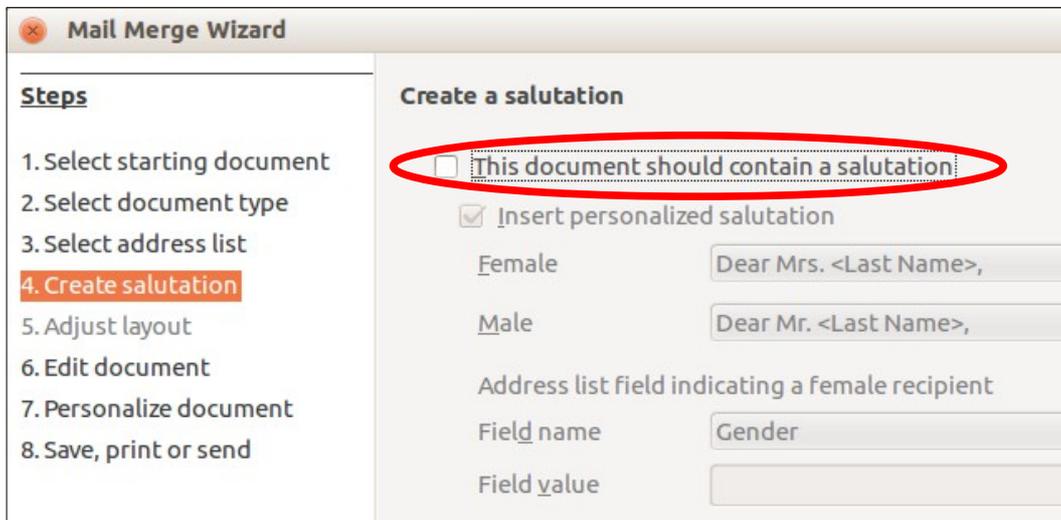
Figure 299: Deselecting a salutation

5) In the left-hand list, click **8. Save, print or send**. LibreOffice displays a "Creating documents" message and then displays the *Save, print or send* page of the Wizard.

6) Select **Send merged document as E-Mail**. The lower part of the page changes to show e-mail settings choices. See Figure 300.

7) Type a subject for your email and click **Send documents**. LibreOffice sends the e-mails.
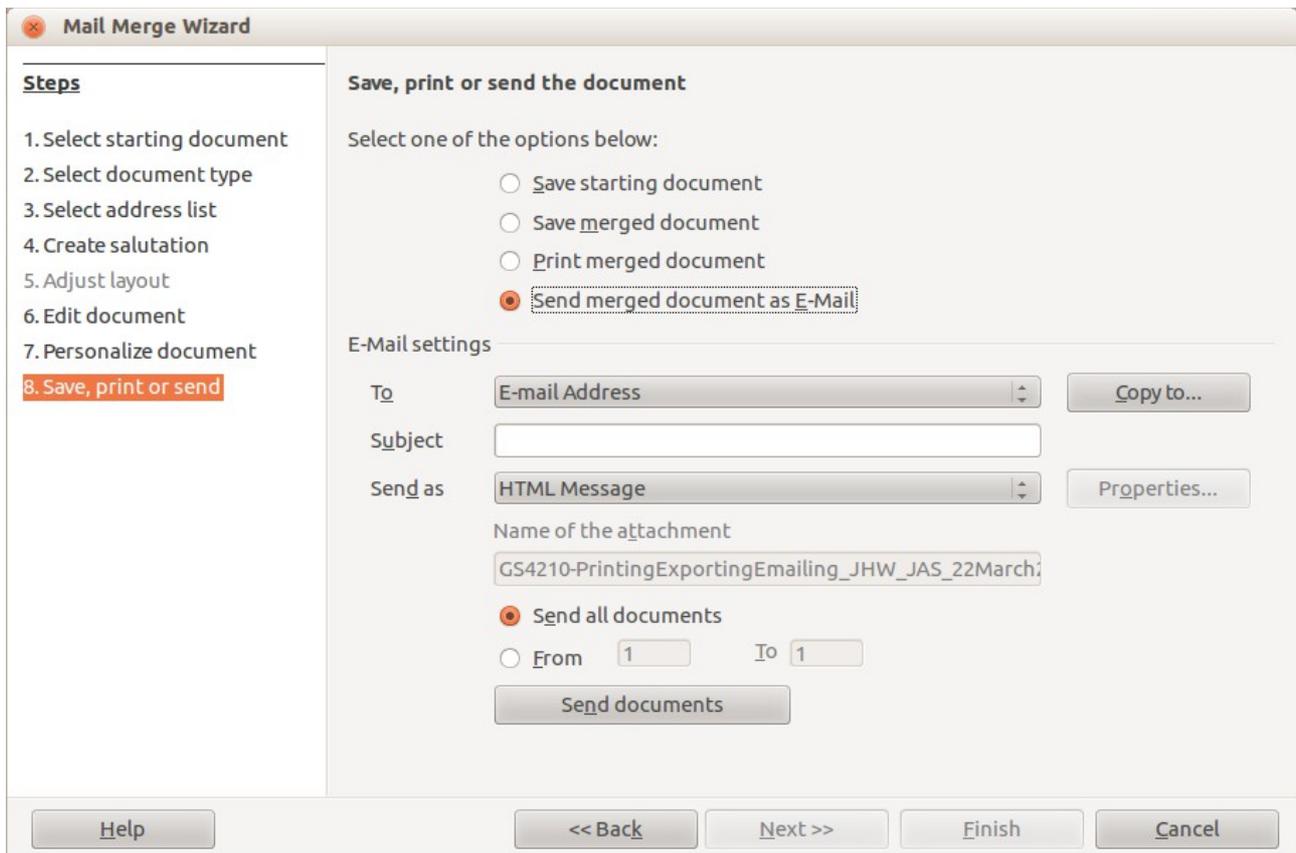
Figure 300: Sending a document as an email message

Digital signing of documents

To sign a document digitally, you need a personal key, also known as a *certificate*. A personal key is stored on your computer as a combination of a private key, which must be kept secret, and a public key, which you add to your documents when you sign them. You can get a certificate from a certification authority, which may be a private company or a governmental institution.

When you apply a digital signature to a document, a kind of checksum is computed from the document's content plus your personal key. The checksum and your public key are stored together with the document.

When someone later opens the document on any computer with a recent version of LibreOffice, the program will compute the checksum again and compare it with the stored checksum. If both are the same, the program will signal that you see the original, unchanged document. In addition, the program can show you the public key information from the certificate. You can compare the public key with the public key that is published on the web site of the certificate authority. Whenever someone changes something in the document, this change breaks the digital signature.

On Windows operating systems, the Windows features of validating a signature are used. On Solaris and Linux systems, files that are supplied by Thunderbird, Mozilla or Firefox are used. For a more detailed description of how to get and manage a certificate, and signature validation, see "About Digital Signatures" in the LibreOffice Help.

To sign a document:

1) Choose **File > Digital Signatures**. If you have set LibreOffice to warn you when the document contains comments (see "Removing personal data" below), you may see a message box asking whether you want to want to continue signing the document.

2) If you have not saved the document since the last change, a message box appears. Click **Yes** to save the file.

3) The Digital Signatures dialog opens. Click **Sign Document** to add a public key to the document.

4) In the Select Certificate dialog, select your certificate and click **OK** to return to the Digital Signatures dialog.

5) The certificate used is displayed in the dialog with an icon next to its name.

   This icon indicates the status of the digital signature.

   – An icon with a red seal ( ) indicates that the document was signed and the certificate was validated.

   – An icon with a yellow caution triangle overlaying the red seal ( ) indicates that the document is signed but that the certificate could not be validated.

   – An icon of a yellow caution triangle ( ) indicates an invalid digital signature.

6) Click **Close** to apply the digital signature.

A signed document shows an icon in the status bar. You can double-click the icon to view the certificate. More than one signature can be added to a document.

Removing personal data

You may wish to ensure that personal data, versions, notes, hidden information, or recorded changes are removed from files before you send them to other people or create PDFs from them.

In **Tools > Options > LibreOffice > Security > Options**, you can set LibreOffice to remind (warn) you when files contain certain information and remove personal information automatically on saving.

To remove personal and some other data from a file, go to **File > Properties**. On the *General* tab, uncheck **Apply user data** and then click the **Reset Properties** button. This removes any names in the created and modified fields, deletes the modification and printing dates, and resets the editing time to zero, the creation date to the current date and time, and the version number to 1.

To remove version information, either (a) go to **File > Versions**, select the versions from the list and click **Delete;** or (b) use **File > Save As** and save the file with a different name.

Chapter 11
Graphics, Gallery, Fontwork

Introduction

You can add graphic and image files, including photos, drawings, scanned images, and others, to LibreOffice documents. LibreOffice can import various vector (line drawing) and raster (bitmap) file formats. The most commonly used graphic formats are GIF, JPG, PNG, and BMP. See Appendix B for a full list of the graphic formats LibreOffice can import.

Graphics in LibreOffice are of three basic types:

- Image files, such as photos, drawings, and scanned images
- Diagrams created using LibreOffice's drawing tools
- Charts created using LibreOffice's Chart component

This chapter covers images and diagrams.

More detailed descriptions on working with drawing tools can be found in the *Draw Guide* and *Impress Guide*. Instructions on how to create charts are given in the *Calc Guide*.

Adding images to a document

Images can be added to a document in several ways: by inserting an image file, directly from a graphics program or a scanner, or by copying and pasting from a source being viewed on your computer.

Inserting an image file

When the image is in a file stored on the computer, you can insert it into an LibreOffice document using either of the following methods.

Drag and drop

1) Open a file browser window and locate the image you want to insert.
2) Drag the image into the LibreOffice document and drop it where you want it to appear. A faint vertical line marks where the image will be dropped.

This method embeds (saves a copy of) the image file in the document. To link the file instead of embedding it, hold down the *Ctrl+Shift* keys while dragging the image.

Insert Image dialog

1) Click in the LibreOffice document where you want the image to appear.
2) Choose **Insert > Image** from the menu bar.
3) On the Insert Image dialog, navigate to the file to be inserted, and select it.
4) At the bottom of the dialog (Figure 301) are two options, **Preview** and **Link**. Select **Preview** to view a thumbnail of the selected image in the preview pane on the right, so that you can verify that you have the correct file. See page 313 for the use of **Link**.
5) Click **Open**.

🟢 **Note**

If you choose the **Link** option, a message box appears when you click **Open**. It asks if you want to embed the graphic instead. Choose **Keep Link** if you want the link, or **Embed Graphic** if you do not. To prevent this message from appearing again, deselect the option **Ask when linking a graphic** at the bottom of the message.
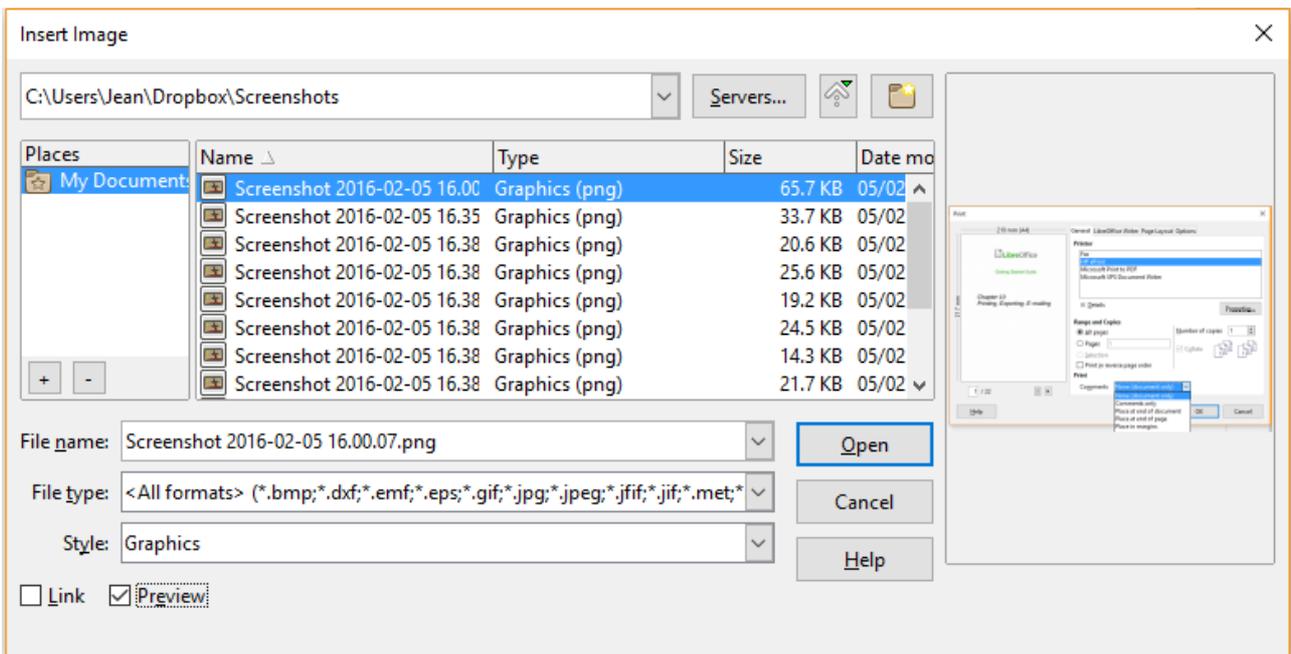
Figure 301: Insert Image dialog

Linking an image file

If the **Link** option in the Insert picture dialog is selected, LibreOffice creates a link to the file containing the image instead of saving a copy of the image in the document. The result is that the image is displayed in the document, but when the document is saved, it contains only a reference to the image file, not the image itself. The document and the image remain as two separate files, and they are merged together only when you open the document again.

Linking an image has two advantages and one disadvantage:

- Advantage – Linking can reduce the size of the document when it is saved, because the image file itself is not included. File size is usually not a problem on a modern computer with a reasonable amount of memory, unless the document includes many large graphics files; LibreOffice can handle quite large files.

- Advantage – You can modify the image file separately without changing the document because the link to the file remains valid, and the modified image will appear when you next open the document. This can be a big advantage if you (or someone else, perhaps a graphic artist) is updating images.

- Disadvantage – If you send the document to someone else, or move it to a different computer, you must also send the image files, or the receiver will not be able to see the linked images. You need to keep track of the location of the images and make sure the recipient knows where to put them on another machine, so that the document can find them. For example, you might keep images in a subfolder named Images (under the folder containing the document); the recipient of the file needs to put the images in a subfolder with the same name and in the same place relative to the document.

🟢 **Note**

> When inserting the same image several times in the document, it would appear beneficial to link rather than embed; however, this is not necessary as LibreOffice embeds only one copy of the image file in the document.

Embedding linked images

If you originally linked the images, you can easily embed one or more of them later if you wish. To do so:

1) Open the document in LibreOffice and choose **Edit > Links**.

2) The Edit Links dialog (Figure 302) shows all the linked files. In the *Source file* list, select the files you want to change from linked to embedded.

3) Click the **Break Link** button.

4) Save the document.

🟢 **Note**

Going the other way, from embedded to linked, is not so easy—you must replace the images, one at a time, selecting the **Link** option when you do so.
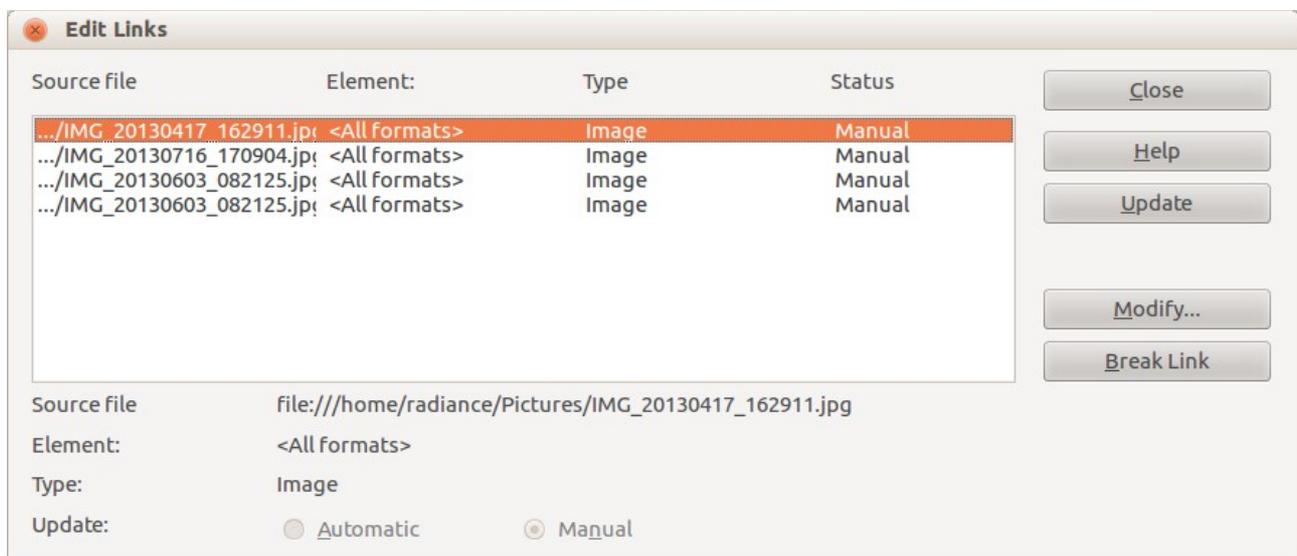
Figure 302: The Edit Links dialog

Inserting an image from the clipboard

Using the clipboard, you can copy images into a LibreOffice document from another LibreOffice document and from other programs. To do this:

1) Open both the source document and the target document.

2) In the source document, select the image to be copied.

3) Click once on the selected image and press *Ctrl+C* to copy the image to the clipboard.

4) Switch to the target document.

5) Click to place the cursor where the graphic is to be inserted.

6) Press *Ctrl+V* to insert the image.

🟧 **Caution**

If the application from which the graphic was copied is closed before the graphic is pasted into the target, the image stored on the clipboard could be lost.

Inserting an image using a scanner

If a scanner is connected to your computer, LibreOffice can call the scanning application and insert the scanned item into the LibreOffice document as an image. To start this procedure, place the cursor where you want the graphic to be inserted and choose **Insert > Image > Scan > Select Source**.

Although this practice is quick and easy, it is unlikely to result in a high-quality image of the correct size. You may get better results by passing scanned material into a graphics program and cleaning it up there before inserting the resulting image into LibreOffice.

Inserting an image from the Gallery

The Gallery (Figure 303) provides a convenient way to group reusable objects such as graphics and sounds that you can insert into your documents. The Gallery is available in all components of LibreOffice. See "Managing the LibreOffice Gallery" on page 316. You can copy or link an object from the Gallery into a document.

To insert an object:

1) Click the **Gallery** icon in the Sidebar.
2) Select a theme.
3) Select an object with a single click.
4) Drag and drop the image into the document.

   You can also right-click on the object and choose **Insert > Copy**.
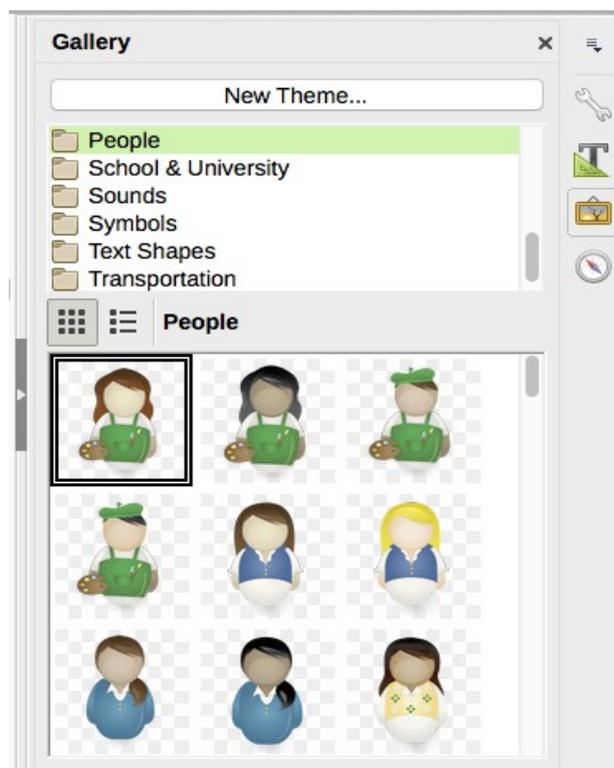
Figure 303: The Gallery in the Sidebar

To insert an object as a link:

1) Choose **Tools > Gallery** and select a theme.
2) Select an object with a single click, then while pressing the *Shift* and *Ctrl* keys, drag and drop the object into the document.

Inserting an image as a background

To insert an image as the background to a page or paragraph:

1) Choose **Tools > Gallery** and select a theme.

2) Select an object with a single click, right-click on the object, and choose **Insert > Background > Page** or **> Paragraph**.

Modifying and positioning graphics

LibreOffice provides many tools for cropping, resizing, modifying, filtering, and positioning graphics; wrapping text around graphics; and using graphics as backgrounds and watermarks. These tools are described in relevant chapters of the other guides. Some sophisticated adjustments of the graphics are best done in an image manipulation program and the results brought into LibreOffice, rather than using LibreOffice's built-in tools.

Managing the LibreOffice Gallery

Graphics in the Gallery are grouped by themes, such as Arrows, Diagrams, and People. You can create other groups or themes and add your own pictures or find extensions containing more graphics. Click on a theme to see its contents displayed in the Gallery window.

You can display the Gallery in *Icon View* (Figure 303) or *Detailed View* (Figure 304), and you can hide or show the Gallery by clicking on the Sidebar's *Hide* button.
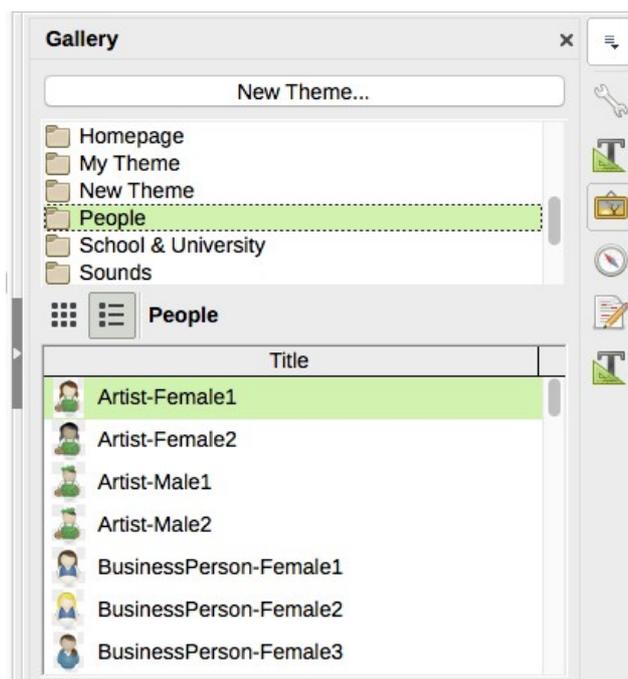
Figure 304: Gallery in Detailed View

🟢 **Note**

> In some installations, only the *My themes* theme is customizable, although new themes can be added as explained in "Adding a new theme to the Gallery" on page 318. The locked themes are easily recognizable by right-clicking on them; the only available option in the context menu is **Properties**.

By default, the Gallery is opened in the Sidebar. You can float the Gallery as you can other Sidebar panes; see Chapter 1, Introducing LibreOffice, for more information.

Adding objects to the Gallery

You may wish to add to the Gallery any images that you use frequently, for example, a company logo. You can then easily insert these graphics into a document later.

1) Right-click on the desired theme and select **Properties** from the context menu.

2) In the theme's Properties dialog, click the *Files* tab (Figure 305).
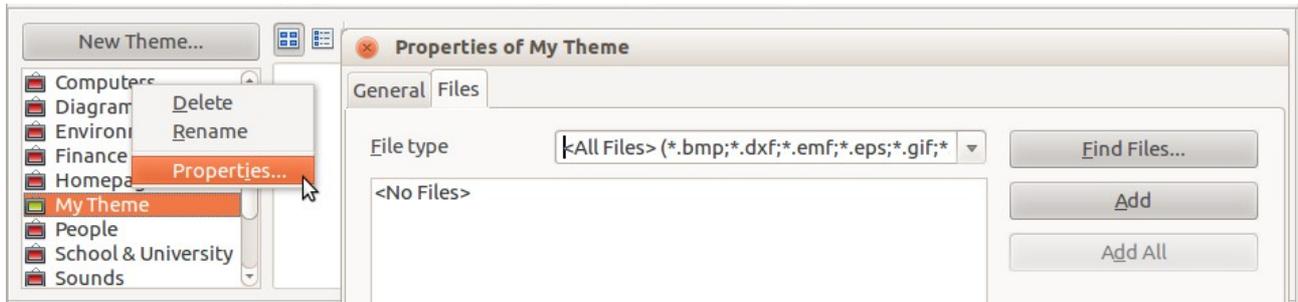
Figure 305: Gallery Properties dialog

To add several files at once:

1) Click the **Find Files** button.

2) The *Select path* dialog (not shown) opens. You can enter the path for the file's directory in the *Path* text box, or you can navigate to locate the file's directory.

3) Click the **Select** button to start the search. A list of graphic files is then displayed in the Properties dialog. You can use the *File type* drop-down list to limit the files displayed.

4) To add all of the files shown in the list, click **Add All.** Otherwise, select the files to add and then click **Add** (hold down either the Shift key or the *Ctrl* key while clicking on the files).

To add a single file:

1) Click **Add** to open the Gallery dialog.

2) Use the navigation controls to locate the image to add to the theme. Select it and then click **Open** to add it to the theme.

3) Click **OK** on the Properties dialog to close it.

Deleting images from the Gallery

To delete an image from a theme:

1) Right-click on the name of the image file or its thumbnail in the Gallery.

2) Click **Delete** in the context menu. A message appears, asking if you want to delete this object. Click **Yes.**

🟢 **Note**

Deleting the name of a file from the list in the Gallery does not delete the file from the hard disk or other location.

Adding a new theme to the Gallery

To add a new theme to the Gallery:

1) Click the **New Theme** button above the list of themes (Figure 304).

2) In the Properties of New Theme dialog, click the **General** tab and type a name for the new theme.

3) Click the **Files** tab and add images to the theme, as described earlier.

Deleting a theme from the Gallery

To delete a theme from the Gallery:

1) Go to **Tools > Gallery.**

2) Select from the list of themes the theme you wish to delete.

3) Right-click on the theme, then click **Delete** on the context menu.

Location of the Gallery and the objects in it

Graphics and other objects shown in the Gallery can be located anywhere on your computer's hard disk, on a network drive, or other removable media. When you add graphics to the Gallery, the files are not moved or copied; the location of each new object is simply added as a reference.

In a workgroup, you may have access to a shared Gallery (where you cannot change the contents unless authorized to do so) and a user Gallery, where you can add, change, or delete objects.

The location of the user Gallery is specified in **Tools > Options > LibreOffice > Paths**. You can change this location, and you can copy your gallery files (SDV) to other computers.

Gallery contents provided with LibreOffice are stored in a different location. You cannot change this location.

Creating an image map

An image map defines areas of an image (called *hotspots*) with hyperlinks to web addresses, other files on the computer, or parts of the same document. Hotspots are the graphic equivalent of text hyperlinks (described in Chapter 12). Clicking on a hotspot causes LibreOffice to open the linked page in the appropriate program (for example, the default browser for an HTML page; LibreOffice Calc for an ODS file; a PDF viewer for a PDF file). You can create hotspots of various shapes and include several hotspots in the same image.

To use the image map editor:

1) In your LibreOffice document, click on the picture in which you want to create the hotspots.

2) Choose **Edit > ImageMap** from the menu bar. The ImageMap Editor (Figure 306) opens.

3) Use the tools and fields in the dialog (described below) to define the hotspots and links necessary.

4) Click the **Apply** icon ✓ to apply the settings.

5) When done, click the **Save** icon 🖫 to save the image map to a file, then click the **X** in the upper right corner to close the dialog.

The main part of the dialog shows the image on which the hotspots are defined. A hotspot is identified by a line indicating its shape.

The toolbar at the top of the dialog contains the following tools:

- **Apply** button: click this button to apply the changes.
- **Load, Save,** and **Select** icons.
- Tools for drawing a hotspot shape: these tools work in exactly the same way as the corresponding tools in the Drawing toolbar.
- **Edit**, **Move**, **Insert**, **Delete Points**: advanced editing tools to manipulate the shape of a polygon hotspot. Choose the Edit Points tool to activate the other tools.
- **Active** icon: toggles the status of a selected hotspot between active and inactive.
- **Macro**: associates a macro with the hotspot instead of just associating a hyperlink.
- **Properties**: sets the hyperlink properties and adds the Name attribute to the hyperlink.
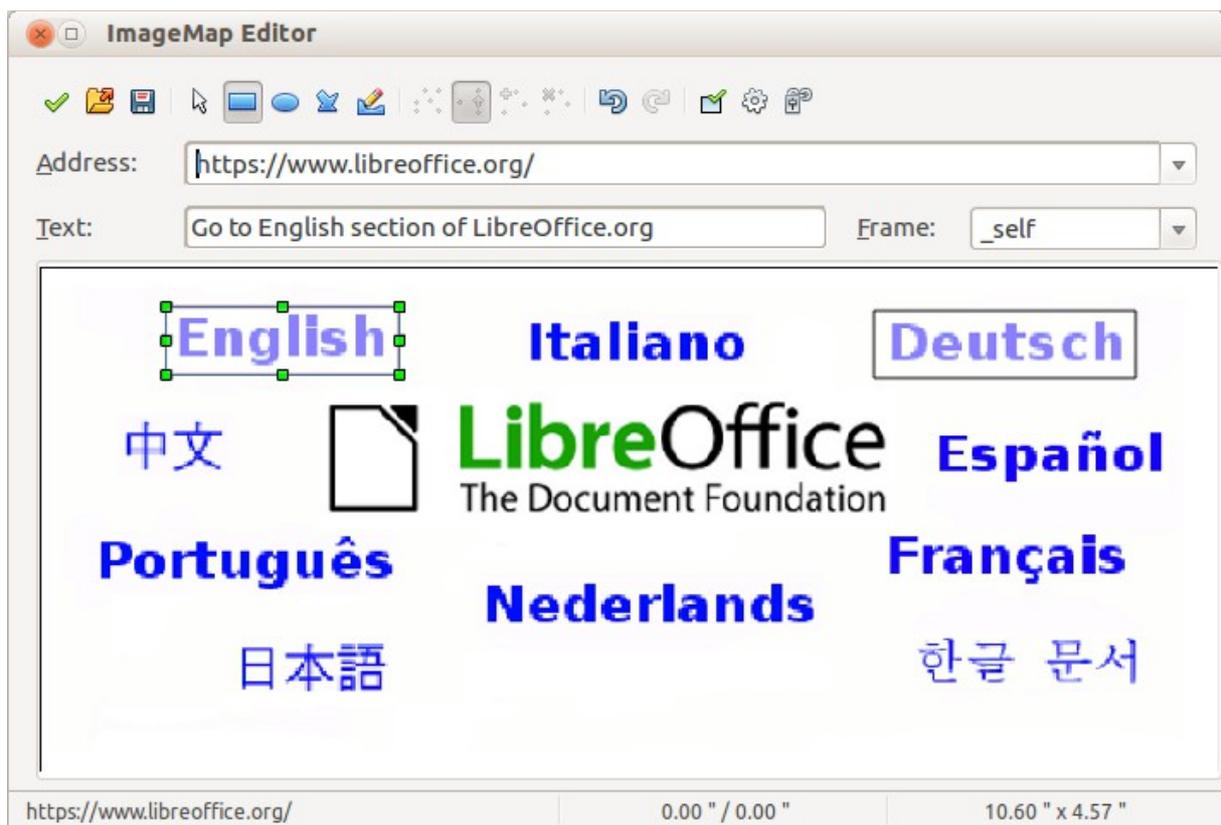
Figure 306: The dialog to create or edit an image map

Below the toolbar, specify for the selected hotspot:

- **Address:** the address pointed to by the hyperlink. You can also point to an anchor in a document; to do this, write the address in this format:
  `file:///<path>/document_name#anchor_name`
- **Text**: type the text that you want to be displayed when the mouse pointer is moved over the hotspot.
- **Frame:** where the target of the hyperlink will open: pick among _blank (opens in a new browser window), _self (opens in the active browser window), _top or _parent.

▶ **Tip**

The value _self for the target frame will usually work just fine. It is therefore not recommended to use the other choices unless absolutely necessary.

Using LibreOffice's drawing tools

You can use LibreOffice's drawing tools to create graphics such as simple diagrams using rectangles, circles, lines, text, and other predefined shapes. You can also group several drawing objects to make sure they maintain their relative position and proportion.

You can place the drawing objects directly on a page in your document, or you can insert them into a frame.

You can also use the drawing tools to annotate photographs, screen captures, or other illustrations produced by other programs, but this is not recommended because:

- You cannot include images in a group with drawing objects, so they may not remain aligned in your document.
- If you convert a document to another format, such as HTML, the drawing objects and the graphics will not remain associated; they are saved separately.

In general, if you need to create complex drawings, it is recommended to use LibreOffice Draw, which includes many more features such as layers, styles, and so on.

Creating drawing objects

To begin using the drawing tools, display the Drawing toolbar (Figure 307) by clicking **View > Toolbars > Drawing**.

If you are planning to use the drawing tools repeatedly, you can tear off this toolbar and move it to a convenient place on the window.
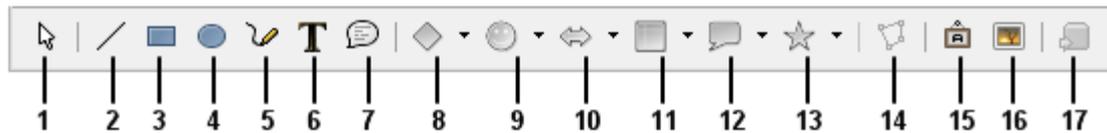
1	Select	**5**	Freeform Line	**9**	Symbol Shapes	**13**	Stars
2	Line	**6**	Text	**10**	Block arrows	**14**	Points
3	Rectangle	**7**	Callouts	**11**	Flowcharts	**15**	Fontwork Gallery
4	Ellipse	**8**	Basic Shapes	**12**	Callouts	**16**	From File
						17	Extrusion On/Off

Figure 307: The Drawing toolbar

To use a drawing tool:

1) Click in the document where you want the drawing to be anchored. You can change the anchor later, if necessary.

2) Choose the tool from the Drawing toolbar (Figure 307). The mouse pointer changes to a drawing-functions pointer similar to this one for a rectangle shape.

3) Move the cross-hair pointer to the place in the document where you want the graphic to appear and then click and drag to create the drawing object. Release the mouse button. The selected drawing function remains active, so that you can draw another object of the same type.

4) To cancel the selected drawing function, press the *Esc* key or click on the **Select** icon (the arrow) on the Drawing toolbar.

5) You can now change the properties (fill color, line type and weight, anchoring, and others) of the drawing object using either the Drawing Object Properties toolbar (Figure 308) or the choices and dialogs reached by right-clicking on the drawing object.

Set or change properties for drawing objects

To set the properties for a drawing object before you draw it:

1) On the Drawing toolbar (Figure 307), click the **Select** tool.

2) On the Drawing Object Properties toolbar (Figure 308), click on the icon for each property and select the value you want for that property.

3) For more control, or to define new attributes, you can click on the **Area** or **Line** icons on the toolbar to display detailed dialogs.

1	Styles and Formatting	**4**	Line Style	**7**	Area	**10**	Effects
2	Line	**5**	Line Width	**8**	Area Style / Filling	**11**	Alignment
3	Arrow Style	**6**	Line Color	**9**	Shadow	**12**	Arrange

Figure 308: Drawing Object Properties toolbar

The default you set applies to the current document and session. It is not retained when you close the document or close Writer, and it does not apply to any other document you open. The defaults apply to all the drawing objects except text objects.

To change the properties for an existing drawing object:

1) Select the object.

2) Continue as described above.

You can also specify the position and size, rotation, and slant and corner radius properties of the drawing object:

1) Right-click on the drawing object and then choose **Position and Size** from the context menu. The Position and Size dialog is displayed.

2) Choose any properties, as required.

Resizing a drawing object

An object is resized in a similar way to an image. Select the object, click on one of the eight handles around it and drag it to its new position. For a scaled resizing, select one of the corner handles and keep the *Shift* key pressed while dragging the handle to its new position.

For more sophisticated control of the size of the object, choose **Format > Object > Position and Size** from the Menu bar. Use the Position and Size dialog to set the width and height independently. If the **Keep ratio** option is selected, then the two dimensions change so that the proportion is maintained, allowing for a scaled resizing.

Grouping drawing objects

To group drawing objects:

1) Select one object, then hold down the *Shift* key and select the others you want to include in the group. The bounding box expands to include all the selected objects.

2) With the objects selected, hover the mouse pointer over one of the objects and choose **Format > Group > Group** from the Menu bar or right-click and choose **Group > Group** from the pop-up menu.

🟢 **Note**

You cannot include an embedded or linked graphic in a group with drawing objects.

Using Fontwork

With Fontwork you can create graphical text art objects to make your work more attractive. There are many different settings for text art objects (line, area, position, size, and more), so you have a large choice.

Fontwork is available with each component of LibreOffice, but you will notice small differences in the way that each component displays it.

Creating a Fontwork object

1) On the Fontwork toolbar (**View > Toolbars > Fontwork**) or the Drawing toolbar (**View > Toolbars > Drawing**), click the Fontwork Gallery icon ![A] .

2) In the Fontwork Gallery (Figure 309), select a Fontwork style, then click **OK**. The Fontwork object will appear in your document. Notice the colored squares around the edge (indicating that the object is selected) and the yellow dot; these are discussed in "Moving and resizing Fontwork objects" on page 326.
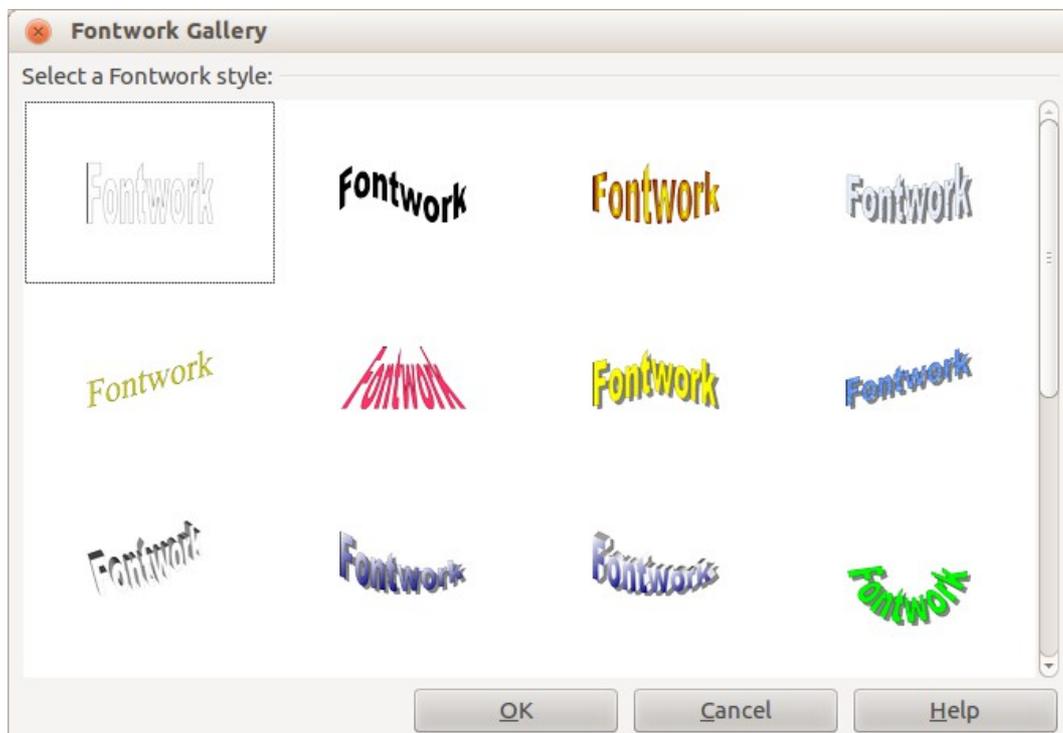
Figure 309: The Fontwork Gallery

3) Double-click the object to edit the Fontwork text (see Figure 310). Select the text and type your own text in place of the black *Fontwork* text that appears over the object.

Figure 310: Editing Fontwork text

4) Click anywhere in a free space or press *Esc* to apply your changes.

Editing a Fontwork object

Now that the Fontwork object is created, you can edit some of its attributes. To do this, you can use the Fontwork toolbar, the Formatting toolbar, or menu options as described in this section. If the selected Fontwork object is a 3-D object, you can also use the 3D-Settings toolbar.

Using the Fontwork toolbar

Make sure that the Fontwork toolbar, shown in Figure 311, is visible. If you do not see it, go to **View > Toolbars > Fontwork**. Click on the different icons to edit Fontwork objects.
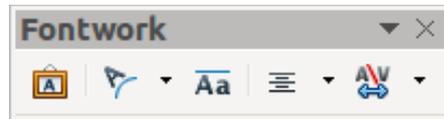
Figure 311: The floating Fontwork toolbar

Fontwork Shape: Edits the shape of the selected object. You can choose from a palette of shapes.
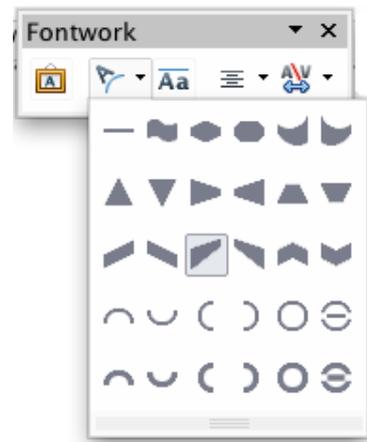
Figure 312: Fontwork toolbar showing palette of shapes
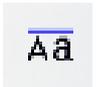
Fontwork Same Letter Heights: Changes the height of characters in the object. Toggles between normal height (some characters taller than others, for example capital letters, d, h, l and others) and all letters the same height.
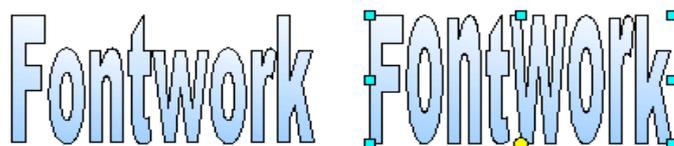
Figure 313: Left: normal letters; right: same letter heights

Fontwork Alignment: Changes the alignment of characters. Choices are left align, center, right align, word justify, and stretch justify. The effects of the text alignment can only be seen if the text spans over two or more lines. In the stretch justify mode, all the lines are filled completely.
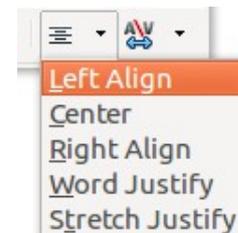
Fontwork Character Spacing: Changes the character spacing and kerning in the object. Select from the choices in the drop-down list.
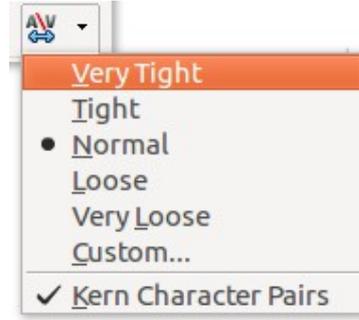
Using the Formatting toolbar

Now let us go further and customize the Fontwork object with several more attributes.

Click on the Fontwork object. The Formatting toolbar changes to show the options for editing the object. (The toolbar shown in Figure 314 appears when you use Fontwork in Writer.)
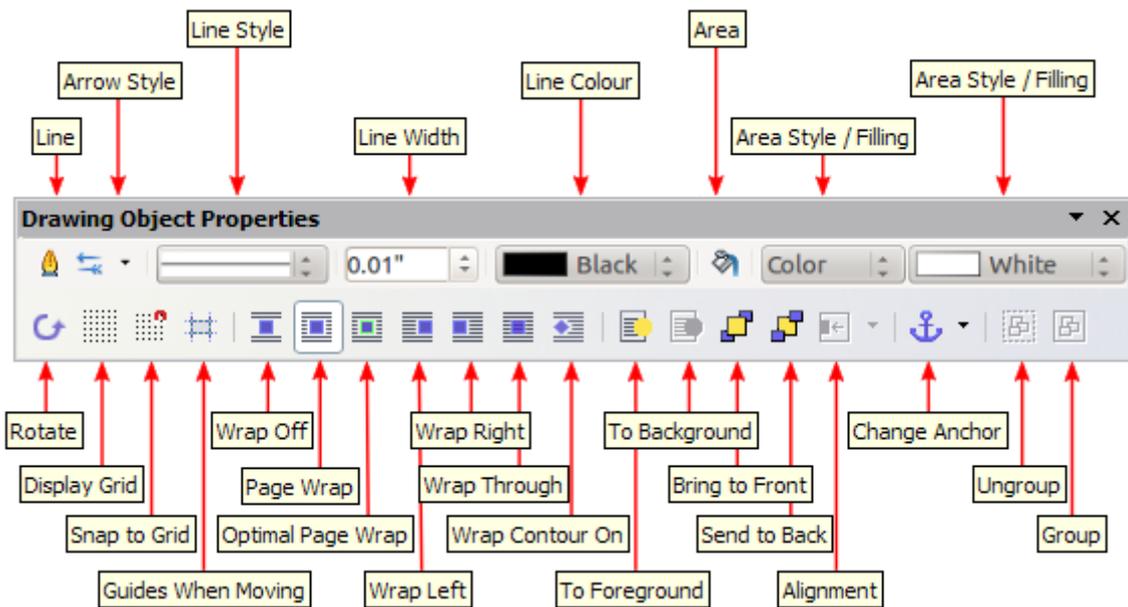
Figure 314: Formatting toolbar for a Fontwork object in Writer

This figure shows the toolbar floating. In its default, docked position it is one of the toolbars located below the menu bar. The example toolbar has also been customized to show all of the available options; by default only a subset of these options is shown.

The Formatting toolbar provides a large choice of options for customizing your object. These choices are the same as the ones for other drawing objects. For more information, see the *Draw Guide*.

Line options
Line icon: Opens a dialog with three tabs: **Line**, **Line Styles**, **Arrow Styles**. Use the **Line** tab to edit the most common properties of the line around the selected Fontwork object, by choosing from previously-defined attributes including line style, line color, and arrow styles. Use the **Lines Styles** and **Arrow Styles** tabs to edit the properties of line and arrow styles, and define new styles.

Arrow Style icon: Choose from the different arrow styles.

Line Style box: Choose from the available line styles.

Line Width box: Set the width of the line.

Line Color box: Select the color of the line.

Area options

Area icon: Opens a dialog with seven tabs: **Area**, **Shadow**, **Transparency**, **Colors**, **Gradients**, **Hatching**, **Bitmaps**.

- **Area** tab: Choose from the predefined list a color, bitmap, gradient or hatching pattern to fill the selected object.
- **Shadow** tab: Set the shadow properties of the selected object.
- **Transparency** tab: Set the transparency properties of the selected object.
- **Colors** tab: Modify the available colors or add new ones to appear on the Area tab.
- **Gradients** tab: Modify the available gradients or add new ones to appear on the Area tab.
- **Hatching** tab: Modify the available hatching patterns or add new ones to appear on the Area tab.
- **Bitmaps** tab: Create simple bitmap patterns and import bitmaps, to make them available on the Area tab.

Area Style / Filling boxes: Select the type of the fill of the selected object. For more detailed settings, use the Area icon.

Positioning options

Rotate icon: Rotate the selected object manually using the mouse to drag the object.

To Foreground icon: Move the selected object in front of the text.

To Background icon: Move the selected object behind the text.

Alignment icon: Modify the alignment of the selected objects.

Bring to front icon: Move the selected object in front of the others.

Send to back icon: Move the selected object behind the others.

Change Anchor icon: Choose between anchoring options:

- To Page—The object keeps the same position in relation to the page margins. It does not move as you add or delete text.
- To Paragraph—The object is associated with a paragraph and moves with the paragraph. It may be placed in the margin or another location.
- To Character—The object is associated with a character but is not in the text sequence. It moves with the paragraph but may be placed in the margin or another location. This method resembles anchoring to a paragraph.
- As Character—The object is placed in the document like any character and moves with the paragraph as you add or delete text before the object.

Ungroup icon: Ungroup a selection of grouped objects, so that they can be managed individually.

Group icon: Group the selected objects, so you can manage them as a single object.

Using menu options

You can use some the choices on the **Format** menu to anchor, align, arrange, and group selected Fontwork objects, wrap text around them, and flip them horizontally and vertically.

You can also right-click on a Fontwork object and choose many of the same options from the pop-up menu. The pop-up menu also provides quick access to the Line, Area, Text, and Position and Size dialogs. The Text dialog offers only a few options for Fontwork objects and is not discussed here. On the Position and Size dialog, you can enter precise values for size and position. For more information on all of these menu options, see the *Draw Guide*.

Using the 3D-Settings toolbar

If the selected Fontwork object is a 3-D object, you can also use the options on the 3D-Settings toolbar. You can also change a 2-D Fontwork object into a 3-D object (or change a 3-D object into a 2-D object) by clicking the Extrusion On/Off icon on the 3D-Settings toolbar. For more information, see the *Draw Guide*.
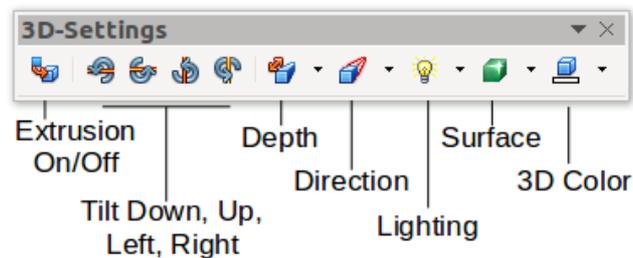
Figure 315: 3D-Settings toolbars

Moving and resizing Fontwork objects

When you select a Fontwork object, eight colored squares (known as *handles*) appear around the edge of the object, as shown below. You can drag these handles to resize the object.

A yellow dot also appears on the object. This dot may be along an edge of the object, or it may be somewhere else; in the example on the right. If you hover the pointer over this yellow dot, the pointer turns into a hand symbol. You can drag the dot in different directions to distort the object.

Hovering the pointer over other parts of the object turns the pointer into the usual symbol for dragging the object to another part of the page.

For precise control of the location and size of the object, use the Position and Size dialog.

Chapter 12
Creating Web Pages

Saving Documents as HTML Files

Introduction

HTML capabilities in LibreOffice include saving and exporting existing documents in HTML format.

This chapter describes how to do the following in Writer, Calc, Impress, and Draw:

- Create hyperlinks within a document and to other documents such as web pages, PDFs, and other files.
- Save documents as web pages (HTML documents) and create web pages using the Web Wizard included with LibreOffice.

When creating a document that you plan to deliver as a web page, you need to consider the following:

- In an HTML document, hyperlinks are active (clickable), but other cross-references inserted by LibreOffice are not active links.
- An object such as an image is saved as a separate file. However, if that object has been placed in a frame (for example, with an associated caption), it is not saved and does not appear in the HTML document; instead, the name of the frame appears.

Relative and absolute hyperlinks

Hyperlinks stored within a file can be either relative or absolute.

A relative hyperlink says, *Here is how to get there starting from where you are now* (meaning from the folder in which your current document is saved) while an absolute hyperlink says, *Here is how to get there no matter where you start from*.

An absolute link will stop working if the target is moved. A relative link will stop working if the start and target locations change relative to each other. For instance, if you have two spreadsheets in the same folder linked to each other and you move the entire folder to a new location, an absolute hyperlink will break but a relative one will not.

To change the way that LibreOffice stores the hyperlinks in your file, select **Tools > Options > Load/Save > General** and choose if you want URLs saved relatively when referencing the *File System*, or the *Internet*, or both.

Calc will always display an absolute hyperlink. Do not be alarmed when it does this even when you have saved a relative hyperlink. This 'absolute' target address will be updated if you move the file.

🟢 **Note**

> Make sure that the folder structure on your computer is the same as the file structure on your web server if you save your links as relative to the file system and you are going to upload pages to the Internet.

▶ **Tip**

> When you rest the mouse pointer on a hyperlink, a help tip displays the absolute reference, because LibreOffice uses absolute path names internally. The complete path and address can only be seen when you view the result of the HTML export (saving the spreadsheet as an HTML file), by loading the HTML file as text, or by opening it with a text editor.

Creating hyperlinks

When you type text (such as a website addresses or URL) that can be used as a hyperlink, and then press the spacebar or the *Enter* key, LibreOffice automatically creates the hyperlink and applies formatting to the text (usually a color and underlining). If this does not happen, you can enable this feature by going to **Tools > AutoCorrect Options > Options** on the menu bar and selecting the **URL Recognition** option.

If you do not want LibreOffice to convert a specific URL to a hyperlink, go to **Edit > Undo Insert** on the menu bar, or press *Ctrl+Z* immediately after the formatting has been applied, or place the cursor in the hyperlink, right-click, and select **Remove Hyperlink** from the context menu.

> ▶ **Tip**
>
> To change the color of hyperlinks, go to **Tools > Options > LibreOffice > Appearance**, scroll to *Unvisited links* and/or *Visited links*, pick the new colors and click **OK**. Caution: this will change the color for all hyperlinks in all components of LibreOffice; this may not be what you want.
>
> In Writer and Calc (but not Draw or Impress), you can also change the *Internet link* character style or define and apply new styles to selected links.

Using the Navigator

You can insert hyperlinks using the Navigator and this is an easy way to insert a hyperlink to another part of the same document.

1) Open the documents containing the items you want to cross-reference.

2) Click on the Navigator icon in the Sidebar.

3) Click the triangle to right of the **Drag Mode** icon and select **Insert as Hyperlink** (Figure 316). Note that the Drag Mode icon changes shape depending on the type of insert that was previously selected. The default icon for Drag Mode is to show the Hyperlink icon ⊕.
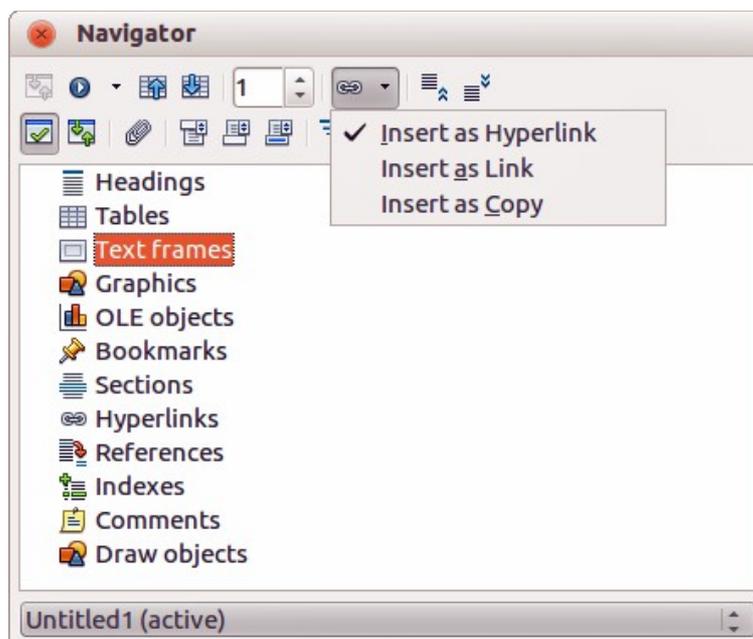
Figure 316: Inserting hyperlink using the Navigator

4) Select the document from the drop-down list at the bottom of the Navigator that contains the item that you want to link to.

5) In the Navigator list, select the item that you want to insert as a hyperlink.

6) Drag the item to where you want to insert the hyperlink in the document. The name of the item is inserted in the document as an active hyperlink.

When using the Navigator to insert a hyperlink to an object such as a graphic, it is recommended to have the hyperlink show a useful name, for example *2009 Sales Graph.* You need to give such objects useful names instead of leaving them as the default names, for example Graphics6, or you will have to edit the name of the resulting link using the Hyperlink dialog, as described below.

You can also use the Navigator to insert a hyperlink from one document (the source) to a specific place in another document (the target). Open the Navigator in the target document and drag the item to the position in the source document where you want the hyperlink to appear.

Using the Hyperlink dialog

You can use the Hyperlink dialog to insert a hyperlink and modify all hyperlinks.

1) Highlight the existing text you want to use as a link.

2) Click the **Hyperlink** icon on the Standard toolbar or go to **Insert > Hyperlink** on the menu bar to open the Hyperlink dialog (Figure 317).

3) On the left side, select one of the four categories of hyperlink:

   – **Internet**: the hyperlink points to a web address, normally starting with http://.

   – **Mail & News**: the hyperlink opens an email message that is pre-addressed to a particular recipient.

   – **Document**: the hyperlink points to another document or to another place in the current document

   – **New document**: the hyperlink creates a new document.

4) The Hyperlink dialog changes depending on the type of hyperlink selected. Enter all necessary details to create the hyperlink.

5) Click **Apply** to create the hyperlink and the Hyperlink dialog remains open allowing you to create another hyperlink.

6) Click **Close** to close the Hyperlink dialog.
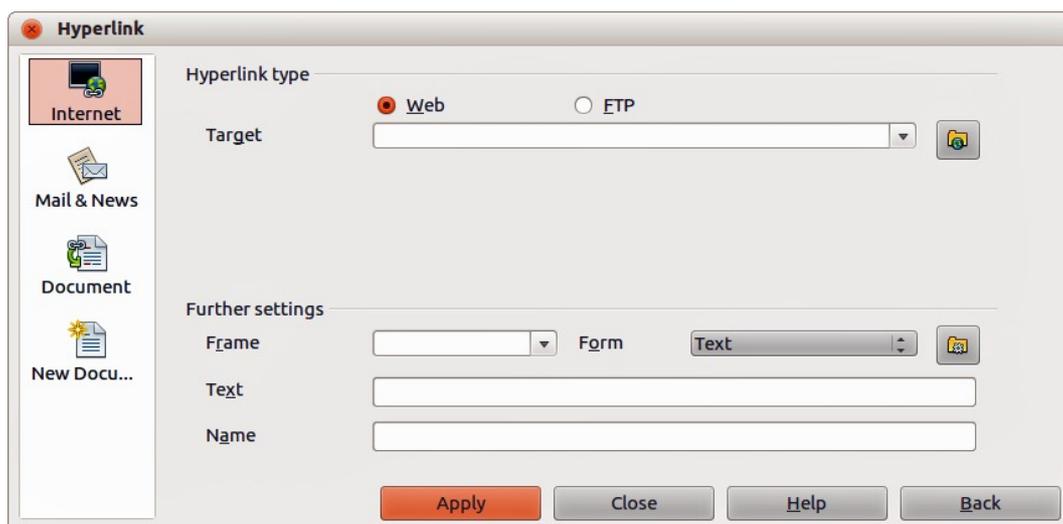
Figure 317. Hyperlink dialog showing details for Internet links

The dialog changes according to the choice made for the hyperlink category in the left panel. A full description of all the choices and their interactions is beyond the scope of this chapter. Here is a summary of the most common choices.

- For an *Internet* hyperlink, choose the type of hyperlink (Web, FTP, or Telnet), and enter the required web address (URL).

- For a *Mail and News* hyperlink, specify whether it is a mail or news link, the address of the receiver and, for email, the subject.

- For a *Document* hyperlink, specify the document path (clicking **Open File** opens a file browser) or leave this blank if you want to link to a target in the same document. Optionally specify the target in the document (for example a specific slide). Click the **Target in Document** icon to open the Target in Document dialog where you can select the type of target; or, if you know the name of the target, you can type it into the box.

- For a *New Document* hyperlink, specify whether to edit the newly created document immediately (**Edit now**) or just create it (**Edit later**). Enter the file name and select the type of document to create (text, spreadsheet, and so on). Click the **Select Path** icon to open a file browser and choose where to store the file.

The *Further settings* section in the bottom right part of the dialog is common to all the hyperlink categories, although some choices are more relevant to some types of links.

- **Frame** value determines how the hyperlink will open. This applies to documents that open in a Web browser.

- **Form** specifies if the link is to be presented as text or as a button. See the *Writer Guide Chapter 15 Using Forms in Writer* for more information.

- **Text** specifies the text that will be visible to the user. If you do not enter anything here, LibreOffice uses the full URL or path as the link text. Note that if the link is relative and you move the file, this text will not change, though the target will.

- **Name** is applicable to HTML documents. It specifies text that will be added as a NAME attribute in the HTML code behind the hyperlink.

- **Events** : click this icon to open the Assign Macro dialog and select a macro to run when the link is clicked. See *Chapter 13 Getting Started with Macros* for more information.

Editing hyperlinks

To edit an existing link:

1) Click anywhere in the hyperlink text.

2) Click the **Hyperlink** icon on the Standard toolb*ar* or go to **Edit > Hyperlink** on the menu bar or right-click and select **Edit Hyperlink** from the context menu. The Hyperlink dialog opens.

3) Make your changes and click **Apply** to save your changes. The Hyperlink dialog remains open allowing you to continue editing hyperlinks. Click **Apply** after editing each hyperlink.

4) When you are finished editing hyperlinks, click **Close**.

The standard (default) behavior for activating hyperlinks within LibreOffice is to use *Ctrl+click*. This behavior can be changed in **Tools > Options > LibreOffice > Security > Options** and deselecting the option **Ctrl-click required to follow hyperlinks**. If clicking in your links activates them, check that page to see if the option has been deselected.

Removing hyperlinks

You can remove the link from hyperlink text and leave just the text by right-clicking on the link and selecting **Remove Hyperlink** from the context menu. You may then need to re-apply some formatting to match the text with the rest of your document.

To erase the link text or button from the document completely, select it and press the *Backspace* or *Delete* key.

Exporting web pages using the Web Wizard

The Web Wizard in LibreOffice allows you to create several types of standard web pages from all LibreOffice components except Math. Each time you start the Web Wizard in a LibreOffice component, Writer will automatically start before the Web Wizard opens. The Web Wizard is linked to Writer and is normally used in Writer for creating web pages.

1) Go to **File > Wizards > Web Page** on the menu bar to open the Web Wizard dialog.
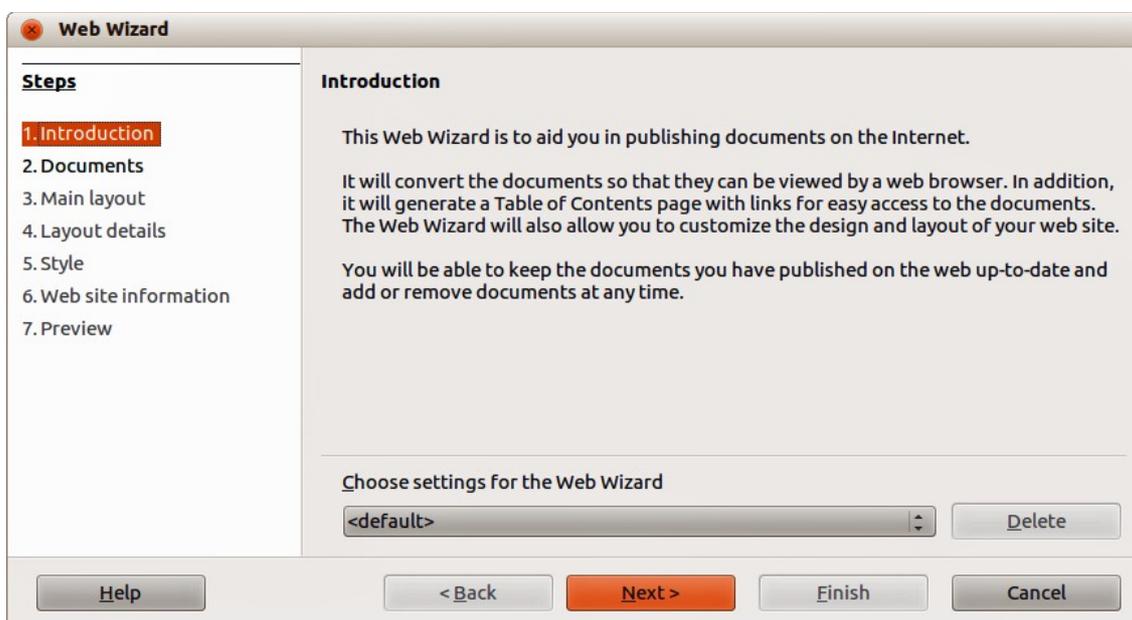
Figure 318: Introduction page of Web Wizard dialog

2) On the first page of the Wizard, choose settings and click **Next >**. If this is your first web page, the only choice is <default>.

3) Select or browse to the document you would like to format. The information for *Title*, *Summary* and *Author* is taken from the document properties. If necessary, edit this information (Figure 319).

4) Click **Next >** and select a layout for the web site by clicking on the layout boxes (Figure 320).

5) Click **Next >** to customize the layout and select the information to be listed and screen resolution (Figure 321).

6) Click **Next >** and select a style for the page. Use the drop-down list to choose different styles and color combinations. Browse to select a background image and icon set from the Gallery (Figure 322).

7) Click **Next >** and enter general information for the web site such as Title and HTML Metadata information (Figure 323).

8) Click **Next >** and enter the information of where to publish your new web site (Figure 324).

9) Click **Finish** to save the file and close the Web Wizard.
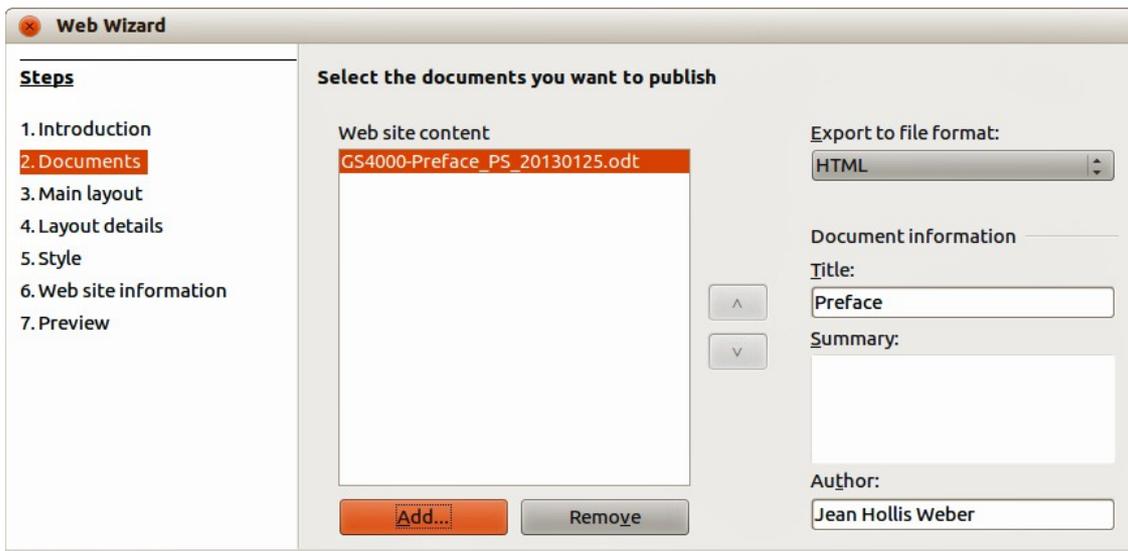
Figure 319: Documents page of Web Wizard dialog
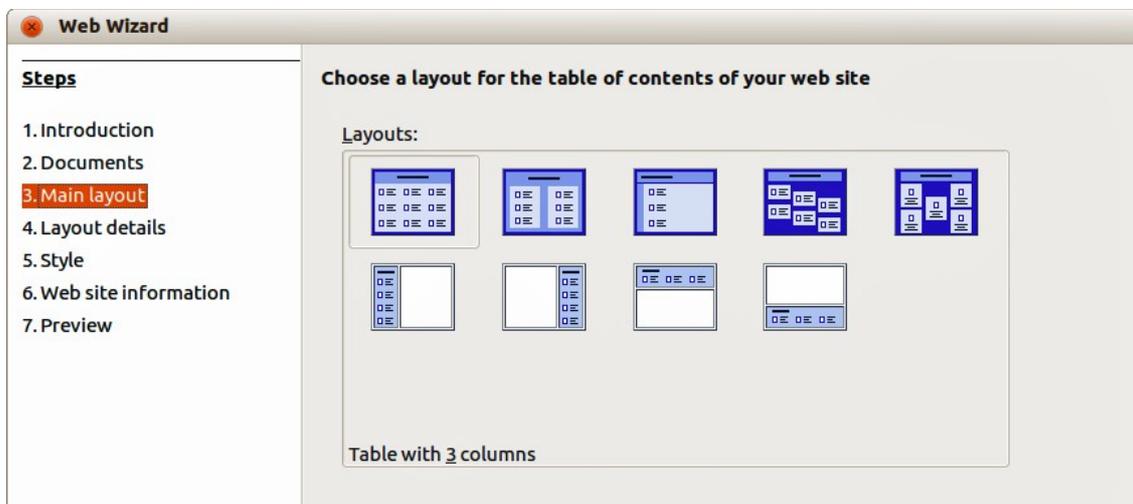
Figure 320: Main layout page of Web Wizard dialog
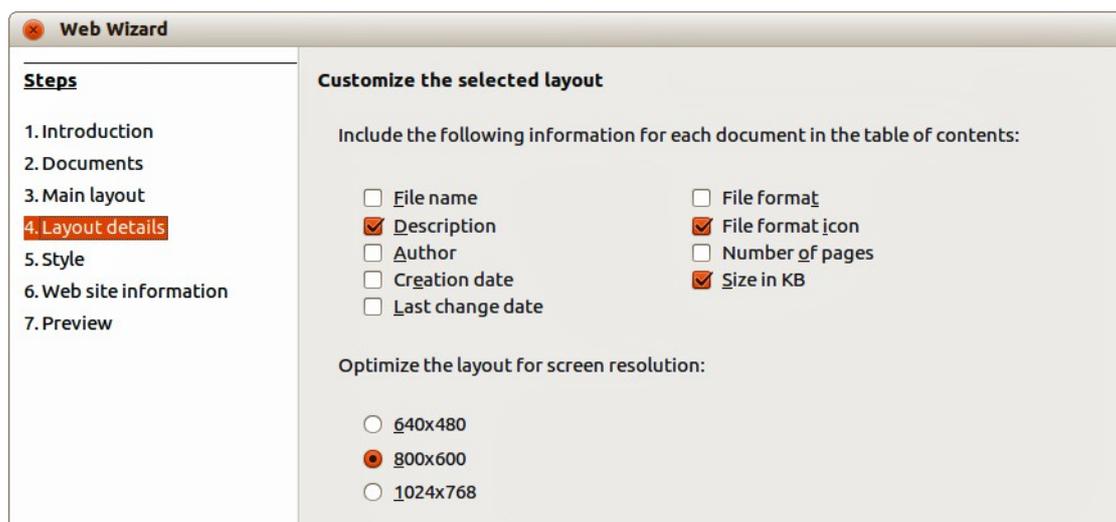
Figure 321: Layout details page of Web Wizard dialog
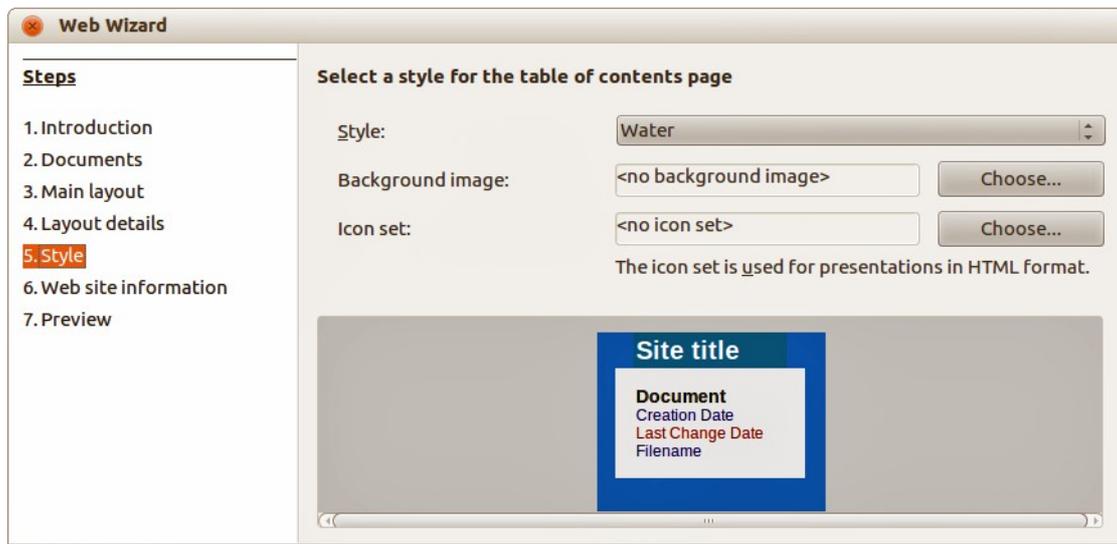
Figure 322: Style page of Web Wizard dialog
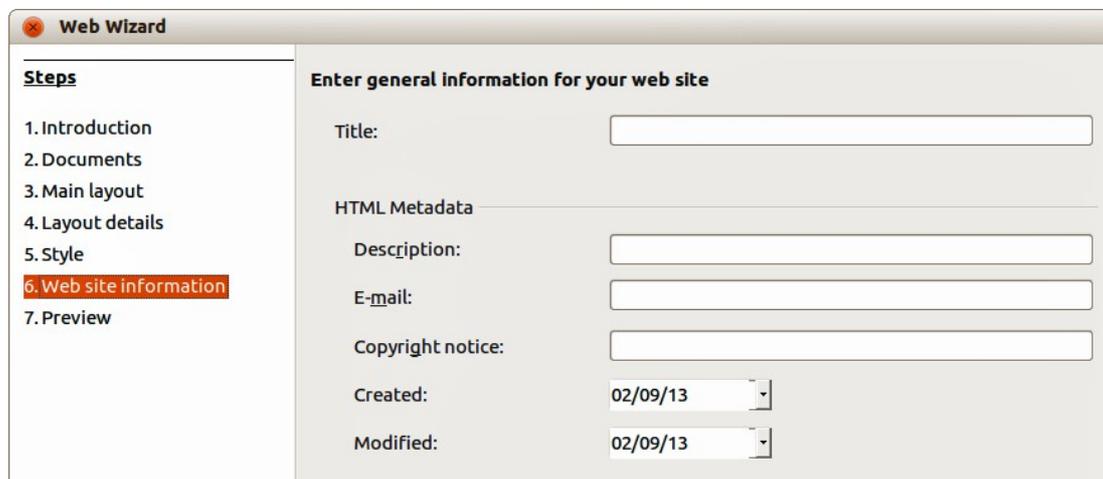
Figure 323: Web site information page of Web Wizard dialog
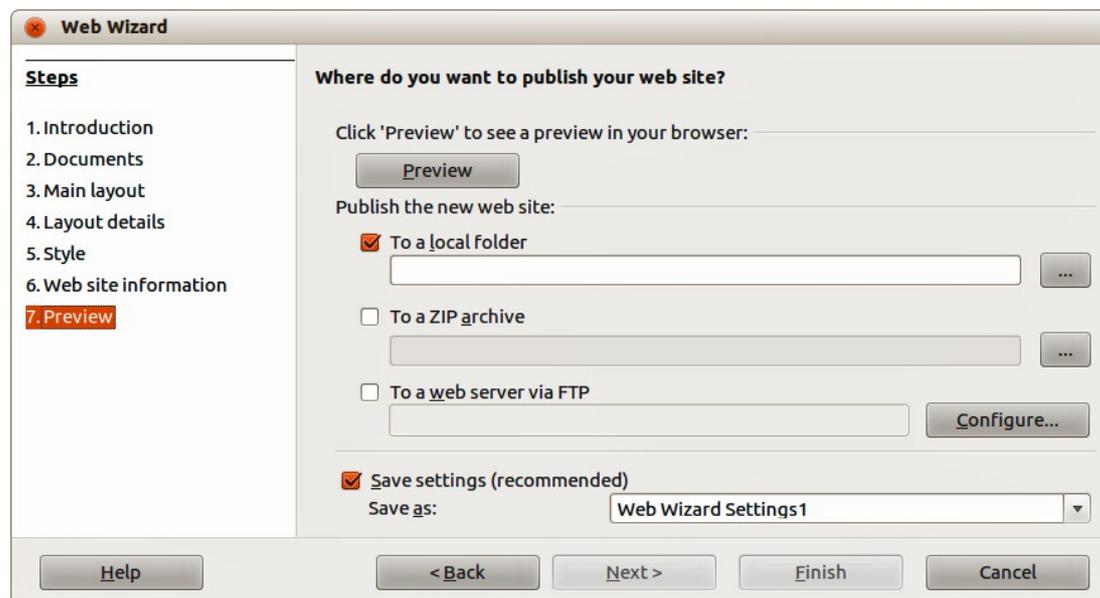
Figure 324: Preview page of Web Wizard dialog

Saving and exporting documents as web pages

The easiest way to create HTML documents in LibreOffice is to start with an existing document. You can get a good idea of how it will appear as a web page by using **View > Web Layout**. However, web layout view does not show you which features will or will not be saved correctly in HTML format. Refer to "Relative and absolute hyperlinks" on page 328 on what to consider before creating a web page from a document.

Writer documents

Single web page

To save a document as a single web page (HTML format), go to **File > Save As** on the menu bar and specify **HTML Document (Writer)** as the file type or **File > Export** and specify **XHTML** format as the file type.

> 🟢 **Note**
>
> Writer does not replace multiple spaces in the original document with the HTML code for non-breaking spaces. If you want to have extra spaces in your HTML file or web page, you need to insert non-breaking spaces in LibreOffice. To do this, press *Ctrl+Spacebar* instead of just *Spacebar*.

Series of web pages

Writer can save a large document as a series of web pages (HTML files) with a table of contents page.

1) Decide which headings in the document should start on a new page and make sure all those headings have the same paragraph style (for example, Heading 1).

2) Go to **File > Send > Create HTML Document** on the menu bar to open the Name and Path of the HTML Document dialog (Figure 325).

3) Type the file name to save the pages under.

4) Specify which style indicates a new page using the Styles drop list at the bottom of the dialog (for example Heading 1).

5) Click **Save** to create the multi-page HTML document. The resulting HTML files conforms to the HTML 4 Transitional.

Calc spreadsheets

Calc can save files as HTML documents by going to **File > Save As** on the menu bar and select **HTML Document (Calc)** format as the file type. This is similar to "Single web page" above.

If the file contains more than one sheet and the web pages are created using the Web Wizard (see "Exporting web pages using the Web Wizard" on page 332), the additional sheets will follow one another in the HTML file. Links to each sheet will be placed at the top of the document.

Calc also allows the insertion of links directly into the spreadsheet using the Hyperlink dialog. See "Creating hyperlinks" on page 329 for more information on hyperlinks.
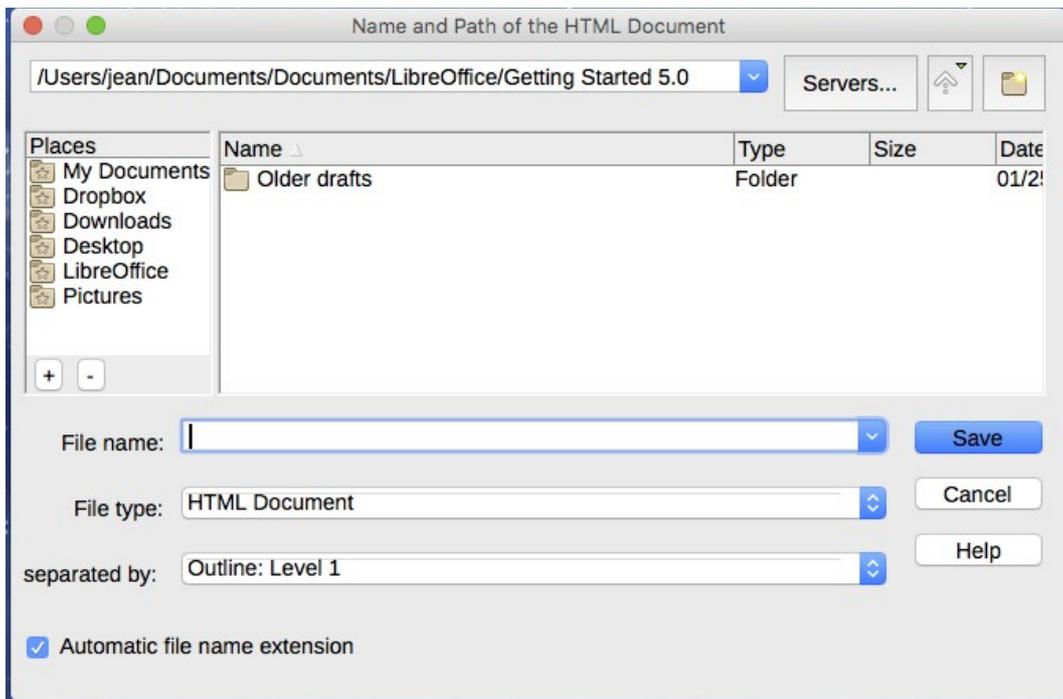
Figure 325. Creating a series of web pages from one document

Impress presentations

🟢 Note

Saving as web pages in HTML format does not retain animation and slide transitions.

Impress presentations cannot be saved in HTML format, but have to be exported as HTML documents. Note that you can click **Create** at any step in the following procedure. The web pages created will then use the default settings that you have not changed in any way.

1) Go to **File > Export** on the menu bar and specify the file name and location of where to save the web page version of your presentation.

2) Select **HTML document (Impress)** as the file type and click **Save** to open the HTML Export dialog (Figure 326).
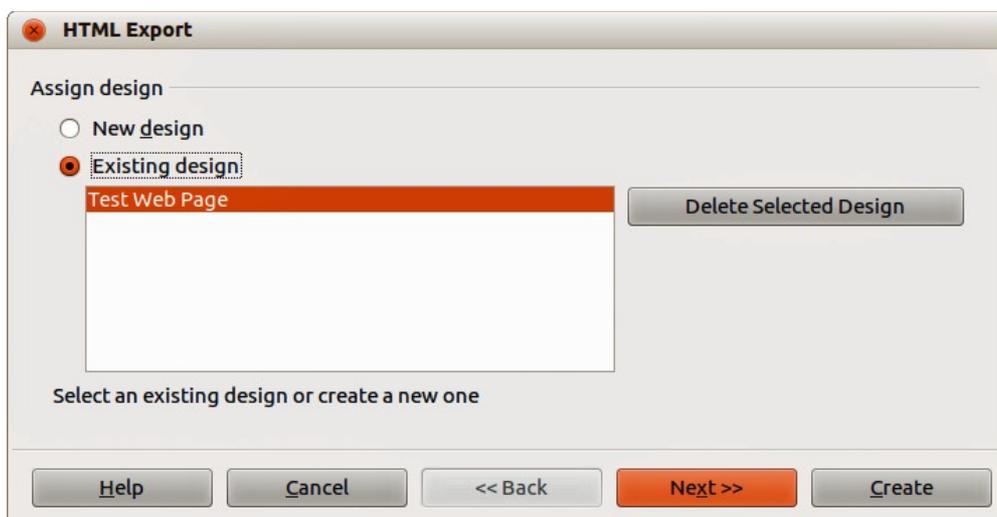
Figure 326: HTML Export dialog - Assign design page

3) On the *Assign design* page you can choose to create a new design and select or delete an existing design. Specify a *New design* or an *Existing design* and click **Next>>**. If you have not previously saved a web page design, the *Existing Design* choice is not available.

- *New design* – creates a new design in the next pages of the Wizard.

- *Existing design* – loads an existing design from the design list to use as a starting point for the steps that follow. The list box displays all existing designs.

- *Delete Selected Design* deletes the selected design from the design list. If you delete a design, you will only delete the design information. An export file will not be deleted by this action.

4) Specify the *Publication type* for the web pages (Figure 327), then click **Next>>**. The publication type defines the basic settings for the intended export. The choices are:

- *Standard HTML format* – creates standard HTML pages from export pages.

- *Standard HTML with frames* – creates standard HTML pages with frames. The exported page will be placed in the main frame and the frame to the left will display a table of contents in the form of hyperlinks.

- *Automatic* – creates a default HTML presentation as a kiosk export in which the slides are automatically advanced after a specified amount of time.

- *WebCast* – in a WebCast export, automatic scripts will be generated with Perl or ASP support. This enables the speaker (for example, a speaker in a telephone conference using a slide show on the Internet) to change the slides in the web browsers used by the audience.

For more information on the options available for this page of the HTML Export dialog, click **Help** to open the help pages.
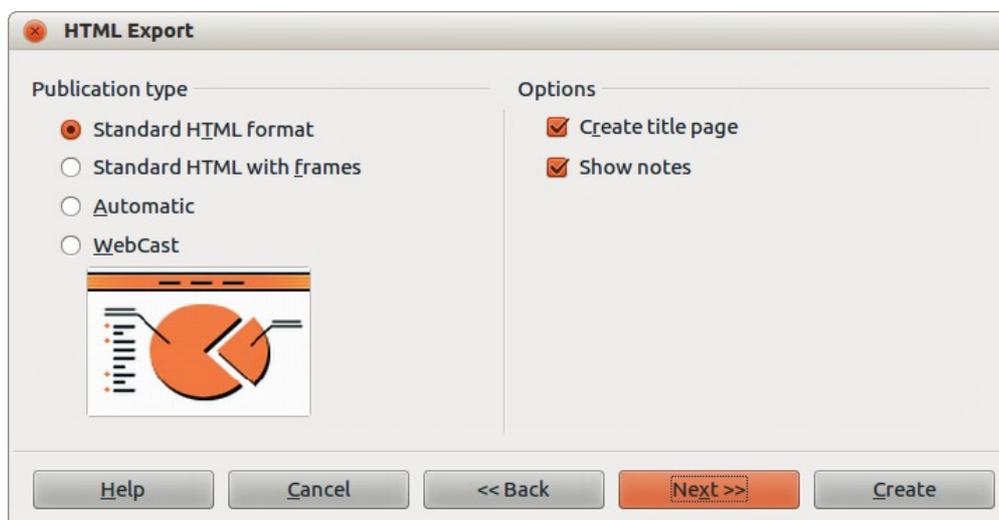
Figure 327: HTML Export dialog – Publication type page

5) Specify the options for *Save graphics as*, *Monitor resolution* and *Effects* used for the web pages (Figure 328), then click **Next>>**. The options for this page of the HTML Export dialog are as follows:

- *Save graphics as* – determines the image format. You can also define the compression value for the export.

- *Monitor resolution* – defines the resolution for the target screen. Depending on the selected resolution, the image will be displayed in a reduced size. You can specify a reduction of up to 80% from the original size. When selecting a resolution, consider

what the majority of your viewers might be using. If you specify a high resolution, then a viewer with a medium-resolution monitor will have to scroll sideways to see the entire slide, which is probably not desirable.

– *Effects* – specifies whether sound files defined as an effect for slide transitions are exported and whether any hidden slides are exported.

For more information on the options available for this page of the HTML Export dialog, click **Help** to open the help pages.
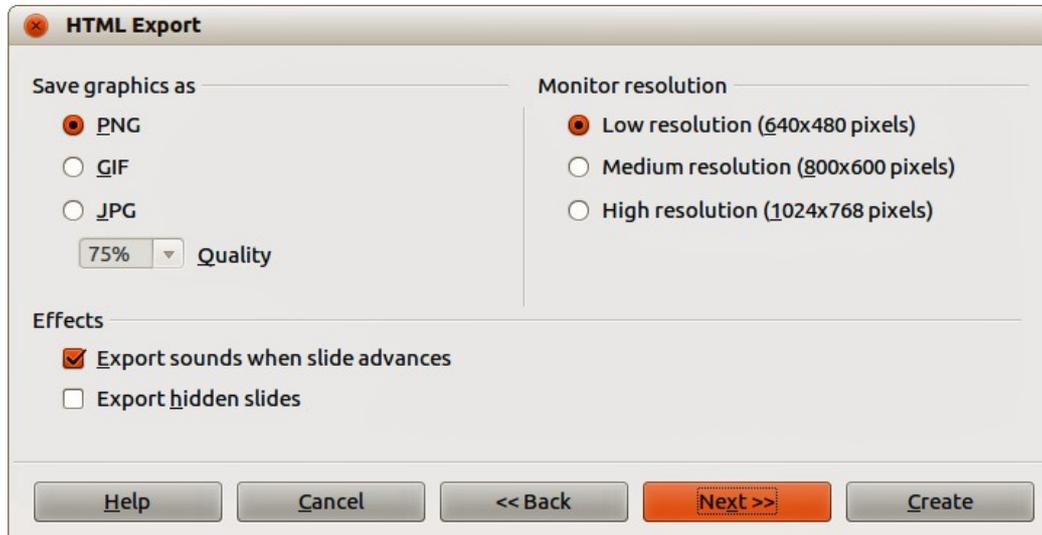
Figure 328: HTML Export dialog – graphics and monitor resolution

6) Specify the *Information for the title page* to be used with the web version of your presentation (Figure 329). The title page normally contains the author's name, an e-mail address and home page, along with any additional information you may want to include. This page is not available if you have selected not to create a title page and either Automatic or WebCast publication type.
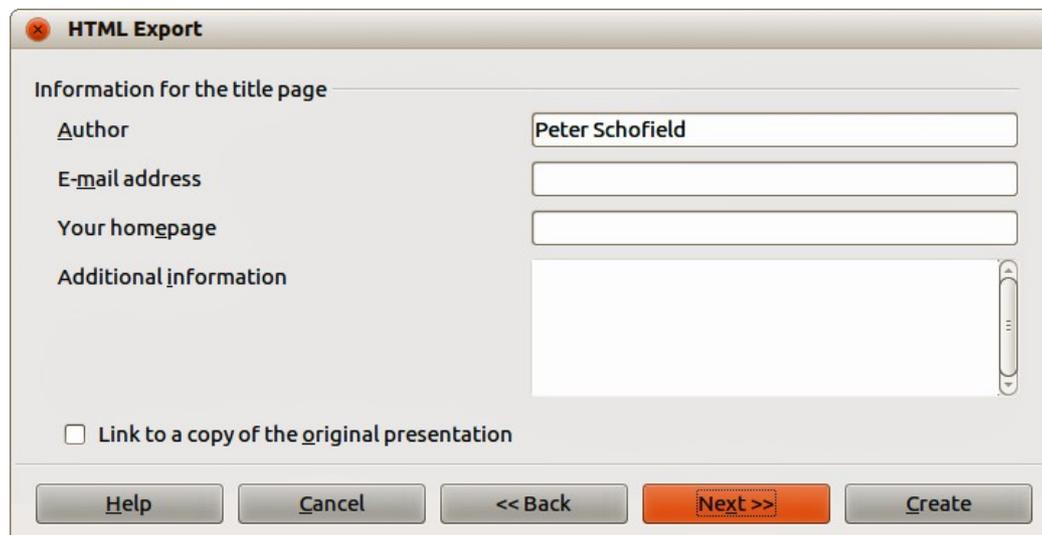
Figure 329: HTML Export dialog – title page information

7) Select *Link to a copy of the original presentation* if you want to create a hyperlink to download a copy of the presentation file and then click **Next>>.**

8) *Select button style* to be used for the web pages from the designs available (Figure 330) and then click **Next>>.**

If you do not select a button style, LibreOffice will create a text navigator.

This page is not available if you have selected either Automatic or WebCast publication type.
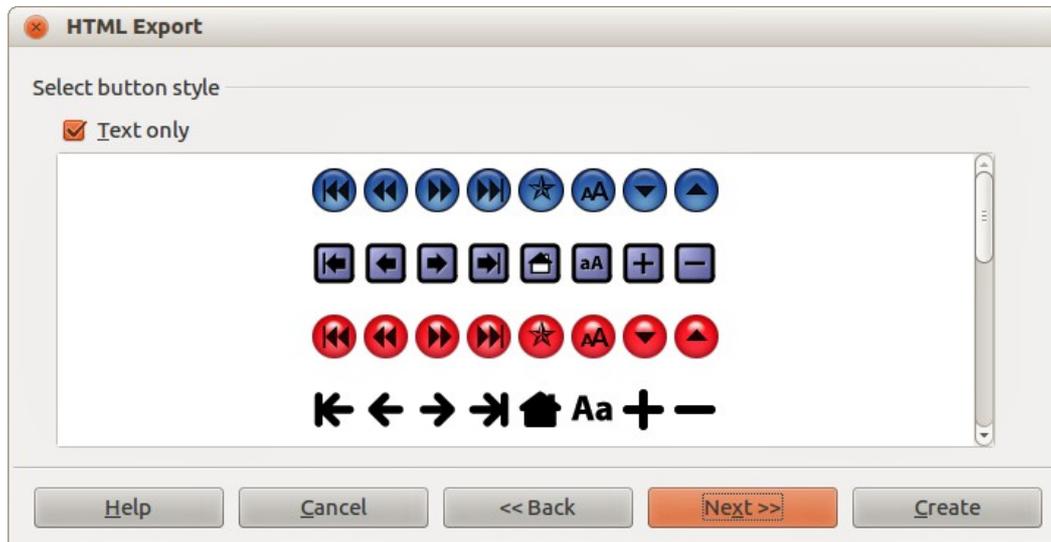
Figure 330: HTML Export dialog – button style page

9) *Select color scheme* to be used for the web pages (Figure 331) such as the color scheme and colors for text and background. This page is not available if you have selected either Automatic or WebCast publication type.
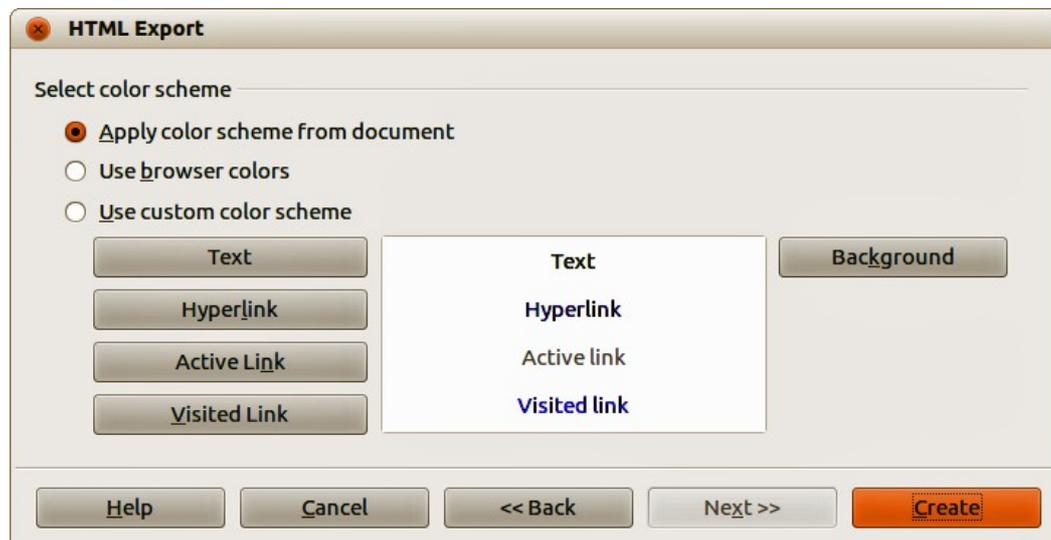
Figure 331: HTML Export dialog – color scheme page

10) Click **Create**.

11) If you have created a new design for your web pages, type in a name for your design and click **Save**.

Note

Depending on the size of your presentation and the number of graphics it contains, the HTML export function creates several HTML, JPG, and GIF files. For example, if you simply save to your desktop and not in a specific folder, these separate HTML and graphics files will be placed all over your desktop. It is recommended to create a folder to hold all the files created for the web version of your presentation.

Draw documents

Draw documents cannot be saved in HTML format, but have to be exported as HTML documents. Exporting drawings as web pages from Draw is similar to exporting a presentation from Impress. Go to **File > Export** and select **HTML Document (Draw)** as the file type, then follow the procedure above for exporting Impress presentations.

Chapter 13
Getting Started with Macros

Using the Macro Recorder … and Beyond

Introduction

A macro is a saved sequence of commands or keystrokes that are stored for later use. An example of a simple macro is one that "types" your address. The LibreOffice macro language is very flexible, allowing automation of both simple and complex tasks. Macros are very useful when you have to repeat the same task in the same way over and over again.

LibreOffice macros are usually written in a language called LibreOffice Basic, sometimes abbreviated to Basic. Although you can learn Basic and write macros, there is a steep learning curve to writing macros from scratch. The usual methods for a beginner are to use macros that someone else has written or use the built-in macro recorder, which records keystrokes and saves them for use.

Most tasks in LibreOffice are accomplished by "dispatching a command" (sending a command), which is intercepted and used. The macro recorder works by recording the commands that are dispatched (see "Dispatch framework" on page 352).

Your first macros

Adding a macro

The first step in learning macro programming is to find and use existing macros. This section assumes that you have a macro that you want to use, which may be in an email, on a web page, or even in a book. For this example, the macro in Listing 1 is used. You must create a library and module to contain your macro; see "Macro organization" on page 353 for more information.

Listing 1: Simple macro that says hello

```
Sub HelloMacro
  Print "Hello"
End Sub
```

Use the following steps to create a library to contain your macro:

1) Use **Tools > Macros > Organize Macros > LibreOffice Basic** to open the LibreOffice Basic Macro dialog (Figure 332).

2) Click **Organizer** to open the Basic Macro Organizer dialog (Figure 333) and select the *Libraries* tab.

3) Set the *Location* to *My Macros & Dialogs*, which is the default location.

4) Click **New** to open the New Library dialog.

5) Enter a library name, for example TestLibrary, and click **OK**.

6) Select the *Modules* tab.

7) In the *Module* list, expand *My Macros* and select, for example TestLibrary. A module named Module1 already exists and can contain your macro. If you wish, you can click **New** to create another module in the library.

8) Select Module1, or the new module that you created, and click **Edit** to open the Integrated Debugging Environment (IDE) (Figure 334). The IDE is a text editor included with LibreOffice that allows you to create and edit macros.

9) When a new module is created, it contains a comment and an empty macro named Main, which does nothing.

10) Add the new macro either before Sub Main or after End Sub. Listing 2 shows the new macro has been added before Sub Main.
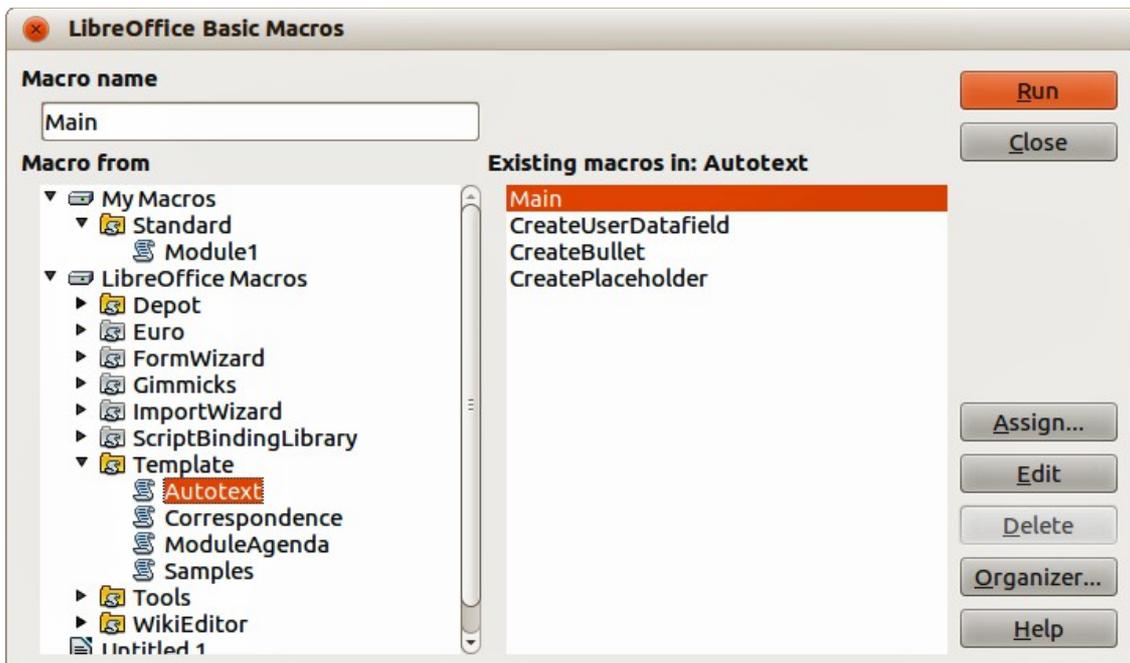
Figure 332: LibreOffice Basic Macros dialog
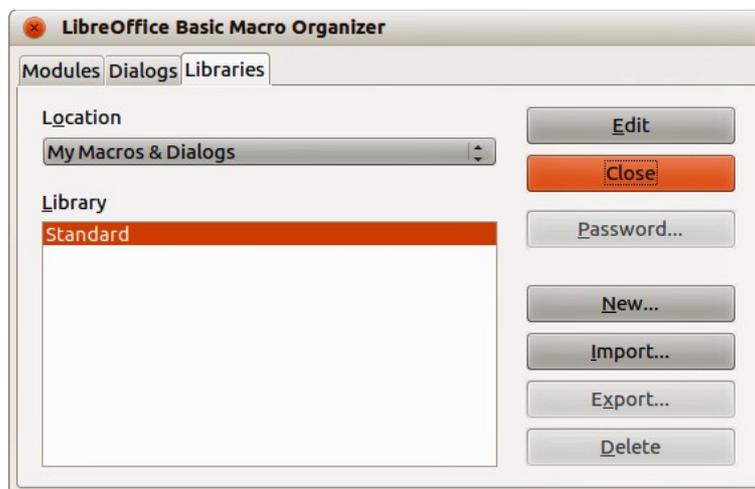
Figure 333: LibreOffice Basic Macro Organizer dialog

11) Click the **Compile** icon on the Macro toolbar to compile the macro.

12) Place the cursor in the HelloMacro subroutine and click the **Run BASIC** icon on the Macro toolbar, or press the *F5* key, to run the HelloMacro in the module. A small dialog will open with the word "Hello" displayed. If the cursor is not in a subroutine or function, a dialog will open; select the macro to run.

13) Click **OK** to close this small dialog.

14) To select and run any macro in the module, click the **Select Macro** icon on the Standard toolbar or go to **Tools > Macros > Organize Macros > LibreOffice Basic**.

15) Select a macro and then click **Run**.
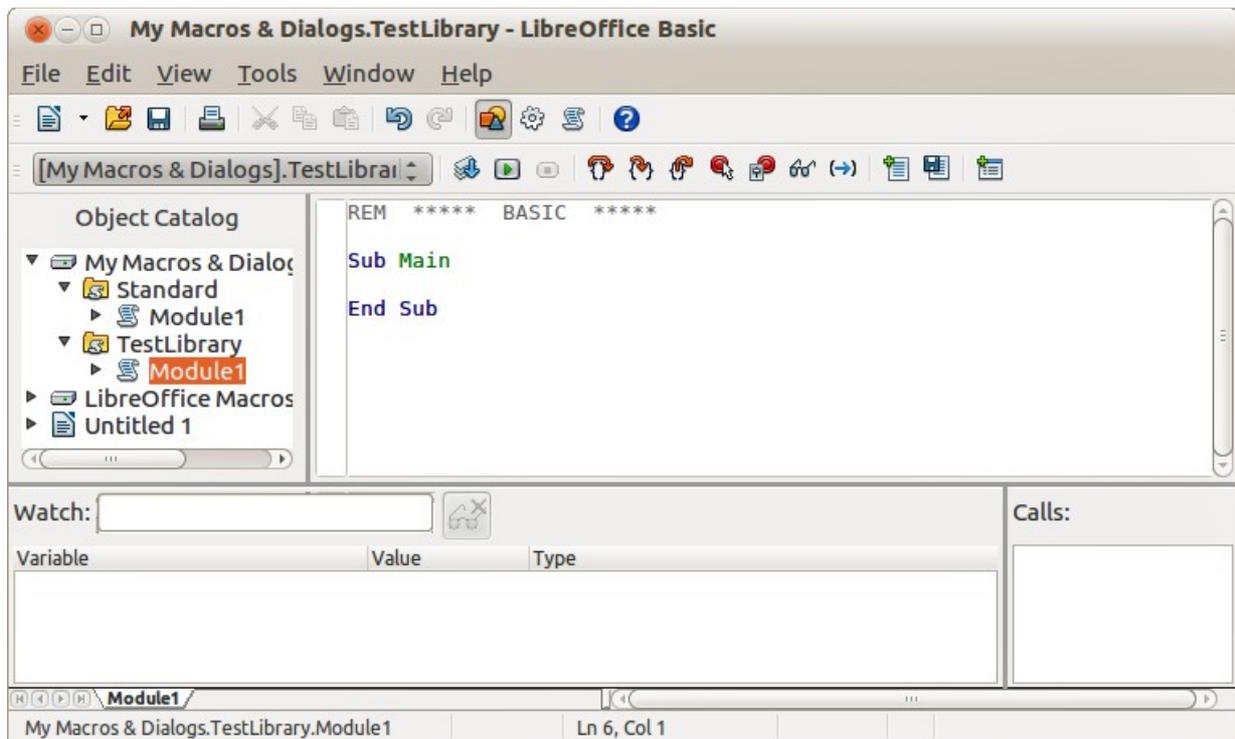
Figure 334: Integrated Debugging Environment dialog

Listing 2: Module1 after adding the new macro.

```
REM  *****  BASIC  *****

Sub HelloMacro
  Print "Hello"
End Sub

Sub Main

End Sub
```

Recording a macro

If you have to repeatedly enter the same information, you can copy this information after it has been entered into your document for the first time, then paste the information into your document each time you want to use it. However, if something else is copied to the clipboard, the contents on the clipboard are changed. This means that you have to re-copy your repeated information. To overcome this problem, you can create a macro that enters your repeated information.

🟢 **Note**

> For some types of information that you want to repeatedly enter into a document, it may be more convenient to create an AutoText file. See the *Writer Guide Chapter 3 Working with Text* for more information.

Make sure macro recording is enabled by going to **Tools > Options > LibreOffice > Advanced** on the main menu bar and selecting the option **Enable macro recording**. By default, this feature is turned off when LibreOffice was installed on your computer.

1) Go to **Tools > Macros > Record Macro** on the main menu bar to start recording a macro. A small dialog is displayed indicating that LibreOffice is recording a macro.

2) Type the desired information or perform an appropriate series of operations. As an example, type your name.

3) Click **Stop Recording** on the small Recording dialog to stop recording and the LibreOffice Basic Macros dialog opens (Figure 332 on page 343).

4) Open the library container *My Macros*.

5) Find the library named *Standard* in My Macros. Note that every library container has a library named Standard.

6) Select the Standard library and click **New Module** to create a new module to contain the macro. This opens the New Module dialog.

7) Type a descriptive name for the new module, for example *Recorded*, and click **OK** to create the module. The LibreOffice Basic Macros dialog now displays the name of the new module in the Standard library.

8) In the **Macro name** text box, type a name for the macro you have just recorded, for example *EnterMyName*.

9) Click **Save** to save the macro and close the LibreOffice Basic Macros dialog.

If you followed all of the above steps, the Standard library now contains a module named Recorded and this module contains the EnterMyName macro.

🟢 **Note**

When LibreOffice creates a new module, it automatically adds the macro named Main.

Running a macro

1) Go to **Tools > Macros > Run Macro** on the main menu bar to open the Macro Selector dialog (Figure 335).

2) For example, select your newly created macro EnterMyName and click **Run**.

3) Alternatively, go to **Tools > Macros > Organize Macros > LibreOffice Basic** on the main menu bar to open the LibreOffice Basic Macros dialog, select your macro and click **Run**.
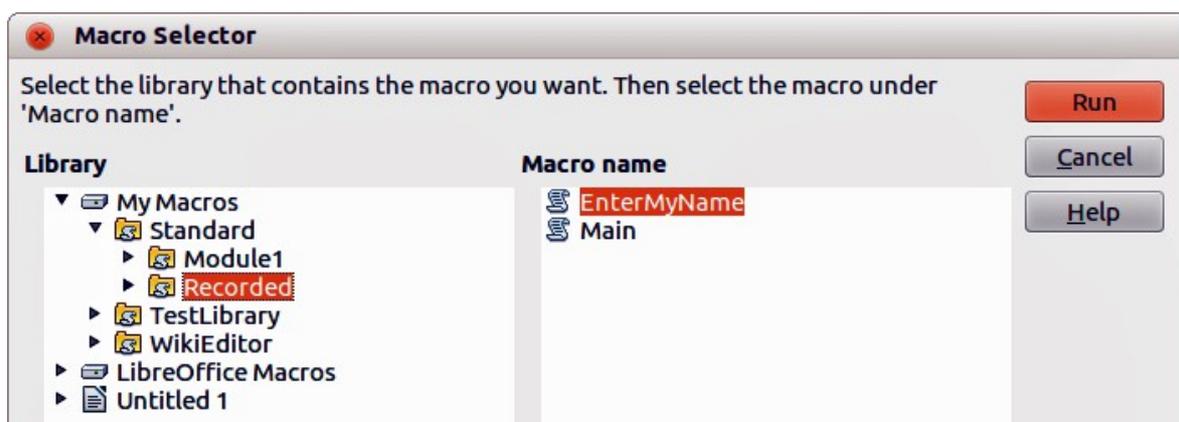
Figure 335: Macro Selector dialog

Viewing and editing macros

To view and/or edit the macro that you created:

1) Go to **Tools > Macros > Organize Macros > LibreOffice Basic** to open the LibreOffice Basic Macros dialog.

2) Select your new macro EnterMyName and click **Edit** to open the macro in the Basic IDE. The macro EnterMyName is shown in Listing 3.

The EnterMyName macro is not as complicated as it first appears. Learning a few things helps significantly in understanding macros. The discussion starts with features near the top of the macro listing and describes them.

Listing 3: Generated "EnterMyname" macro

```
REM  *****  BASIC  *****
Sub Main

End Sub

sub EnterMyName
rem ------------------------------------------------------------
rem define variables
dim document   as object
dim dispatcher as object
rem ------------------------------------------------------------
rem get access to the document
document   = ThisComponent.CurrentController.Frame
dispatcher = createUnoService("com.sun.star.frame.DispatchHelper")

rem ------------------------------------------------------------
dim args1(0) as new com.sun.star.beans.PropertyValue
args1(0).Name = "Text"
args1(0).Value = "Your name"

dispatcher.executeDispatch(document, ".uno:InsertText", "", 0, args1())
end sub
```

Commenting with REM

All comments in macro coding begin with REM, which stands for remark. All text after REM and on the same line is ignored. As a short cut, the single quote character (') can also be used to start a comment.

LibreOffice Basic is not case-sensitive for keywords, so REM, Rem, and rem can all start a comment. If you use symbolic constants defined by the Application Programming Interface (API), it is safer to assume that the names are case-sensitive. Symbolic constants are an advanced topic not covered by this user guide and are not required when using the macro recorder in LibreOffice.

Defining subroutines with SUB

Individual macros are stored in subroutines and these subroutines begin with the keyword SUB. The end of a subroutine is indicated by the words END SUB. The code starts by defining the subroutine named Main, which is empty and does nothing. The next subroutine, EnterMyName, contains the generated code for your macro.

> ### Note
>
> LibreOffice always creates an empty subroutine named Main when it creates a module.

There are advanced topics that are beyond the scope of this user guide, but knowing about them might be of interest:

- You can write a macro so that values can be passed to the subroutine. The values are called arguments. However, recorded macros in LibreOffice do not accept arguments.

- Another kind of subroutine is called a function, which is a subroutine that returns a value. Functions are defined by the keyword FUNCTION at the beginning. However, recorded macros in LibreOffice always create subroutines, not functions.

Defining variables using Dim

You can write information on a piece of paper so that you can look at it later. A variable, like a piece of paper, contains information that can be changed and read. The Dim keyword originally stood for Dimension and was used to define the dimensions of an array. The dim statement used in the EnterMyName macro is similar to setting aside a piece of paper to be used to store a message or note.

In the EnterMyName macro, the variables `document` and `dispatcher` are defined as the type *object*. Other common variable types include *string*, *integer*, and *date*. A third variable, named *args1*, is an array of property values. A variable of type *array* allows a single variable to contain multiple values, similar to storing multiple pages in a single book. Values in an array are usually numbered starting from zero. The number in the parentheses indicates the highest usable number to access a storage location. In this example, there is only one value, and it is numbered zero.

Explaining macro code

The following is an explanation of the code used in the EnterMyName macro. You may not understand all the details, but the explanation of each line of code may give you some idea of how a macro works.

```
sub EnterMyName
```

Defines the start of the macro

```
dim document    as object
```

Defined as a variable

```
dim dispatcher as object
```

Defined as a variable

```
document = ThisComponent.CurrentController.Frame
```

ThisComponent refers to the current document.

CurrentController is a property referring to a service that controls the document. For example, when you type, it is the current controller that takes note of what you type. CurrentController then dispatches the changes to the document frame.

Frame is a controller property that returns the main frame for a document. Therefore, the variable named document refers to a document's frame, which receives dispatched commands.

```
dispatcher = createUnoService("com.sun.star.frame.DispatchHelper")
```

Most tasks in LibreOffice are accomplished by dispatching a command. LibreOffice includes a dispatch helper service, which does most of the work when using dispatches in macros. The method CreateUnoService accepts the name of a service and it tries to create an instance of that service. On completion, the dispatcher variable contains a reference to a DispatchHelper.

```
dim args1(0) as new com.sun.star.beans.PropertyValue
```

> Declares an array of properties. Each property has a name and a value. In other words, it is a name/value pair. The created array has one property at index zero.

```
args1(0).Name = "Text"
```

```
args1(0).Value = "Your name"
```

> Gives the property the name "Text" and the value "Your name", which is the text that is inserted when the macro is run.

```
dispatcher.executeDispatch(document, ".uno:InsertText", "", 0, args1())
```

> This is where the magic happens. The dispatch helper sends a dispatch to the document frame (stored in the variable named document) with the command .uno:InsertText. The next two arguments, frame name and search flags, are beyond the scope of this document. The last argument is the array of property values to be used while executing the command InsertText.

```
end sub
```

> The last line of the code ends the subroutine.

Creating a macro

When creating a macro, it is important to ask two questions before recording:

1) Can the task be written as a simple set of commands?
2) Can the steps be arranged so that the last command leaves the cursor ready for the next command or entering text or data into the document?

A more complicated example of a macro

A common task is to copy rows and columns of data from a web site and format them as a table in a text document as follows:

1) Copy the data from the web site to the clipboard.
2) To avoid strange formatting and fonts, paste the text into a Writer document as unformatted text.
3) Reformat the text with tabs between columns so that it can be converted into a table using **Table > Convert > Text to Table** on the main menu bar.

With the two questions given above in mind, inspect the text to see if a macro can be recorded to format the text. An example of copied data showing the FontWeight constants group from the API web site (Figure 336). The first column in this example indicates a constant name and each name is followed by a space and a tab, and each line has two trailing spaces.

The first column in the table should contain a numeric value, the second column the name, and the third column the description. This conversion is easily accomplished for every row except for DONTKNOW and NORMAL, which do not contain a numeric value, but the values are between 0 and 100 and can be entered manually.

DONTKNOW	The font weight is not specified/known.
THIN	specifies a 50% font weight.
ULTRALIGHT	specifies a 60% font weight.
LIGHT	specifies a 75% font weight.
SEMILIGHT	specifies a 90% font weight.
NORMAL	specifies a normal font weight.
SEMIBOLD	specifies a 110% font weight.
BOLD	specifies a 150% font weight.
ULTRABOLD	specifies a 175% font weight.
BLACK	specifies a 200% font weight.

Figure 336: Example of copied data

The data can be cleaned up in several ways, all of them easy to accomplish. The example given below uses keystrokes that assume the cursor is at the start of the line with the text THIN.

1) Make sure macro recording is enabled by going to **Tools > Options > LibreOffice > Advanced** on the main menu bar and selecting the option **Enable macro recording**. By default, this feature is turned off when LibreOffice was installed on your computer.

2) Go to **Tools > Macros > Record Macro** on the main menu bar to start recording.

3) Press *Ctrl+Right Arrow* to move the cursor to the start of "specifies".

4) Press *Backspace* twice to remove the tab and the space.

5) Press *Tab* to add the tab without the space after the constant name.

6) Press *Delete* to delete the lower case s and then press *Shift+S* to add an upper case S.

7) Press *Ctrl+Right Arrow* twice to move the cursor to the start of the number.

8) Press *Ctrl+Shift+Right Arrow* to select and move the cursor before the % sign.

9) Press *Ctrl+C* to copy the selected text to the clipboard.

10) Press *End* to move the cursor to the end of the line.

11) Press *Backspace* twice to remove the two trailing spaces.

12) Press *Home* to move the cursor to the start of the line.

13) Press *Ctrl+V* to paste the selected number to the start of the line.

14) Pasting the value also pasted an extra space, so press *Backspace* to remove the extra space.

15) Press *Tab* to insert a tab between the number and the name.

16) Press *Home* to move to the start of the line.

17) Press *down arrow* to move to the next line.

18) Stop recording the macro and save the macro, see "Recording a macro" on page 344.

It takes much longer to read and write the steps than to record the macro. Work slowly and think about the steps as you do them. With practice this becomes second nature.

The generated macro code in Listing 4 has been modified to contain the step number in the comments to match the code to the step above.

Listing 4: Copying numeric value to start of the column

```
sub CopyNumToCol1
rem ----------------------------------------------------------------
rem define variables
dim document   as object
dim dispatcher as object
rem ----------------------------------------------------------------
rem get access to the document
document    = ThisComponent.CurrentController.Frame
dispatcher = createUnoService("com.sun.star.frame.DispatchHelper")

rem (3) Press Ctrl+Right Arrow to move the cursor to the start of "specifies".
dispatcher.executeDispatch(document, ".uno:GoToNextWord", "", 0, Array())

rem (4) Press Backspace twice to remove the tab and the space.
dispatcher.executeDispatch(document, ".uno:SwBackspace", "", 0, Array())

rem ----------------------------------------------------------------
dispatcher.executeDispatch(document, ".uno:SwBackspace", "", 0, Array())

rem (5) Press Tab to add the tab without the space after the constant name.
dim args4(0) as new com.sun.star.beans.PropertyValue
args4(0).Name = "Text"
args4(0).Value = CHR$(9)

dispatcher.executeDispatch(document, ".uno:InsertText", "", 0, args4())

rem (6) Press Delete to delete the lower case s ....
dispatcher.executeDispatch(document, ".uno:Delete", "", 0, Array())

rem (6) ... and then press Shift+S to add an upper case S.
dim args6(0) as new com.sun.star.beans.PropertyValue
args6(0).Name = "Text"
args6(0).Value = "S"

dispatcher.executeDispatch(document, ".uno:InsertText", "", 0, args6())

rem (7) Press Ctrl+Right Arrow twice to move the cursor to the number.
dispatcher.executeDispatch(document, ".uno:GoToNextWord", "", 0, Array())

rem ----------------------------------------------------------------
dispatcher.executeDispatch(document, ".uno:GoToNextWord", "", 0, Array())

rem (8) Press Ctrl+Shift+Right Arrow to select the number.
dispatcher.executeDispatch(document, ".uno:WordRightSel", "", 0, Array())

rem (9) Press Ctrl+C to copy the selected text to the clipboard.
dispatcher.executeDispatch(document, ".uno:Copy", "", 0, Array())

rem (10) Press End to move the cursor to the end of the line.
dispatcher.executeDispatch(document, ".uno:GoToEndOfLine", "", 0, Array())

rem (11) Press Backspace twice to remove the two trailing spaces.
dispatcher.executeDispatch(document, ".uno:SwBackspace", "", 0, Array())

rem ----------------------------------------------------------------
dispatcher.executeDispatch(document, ".uno:SwBackspace", "", 0, Array())
```

```
rem (12) Press Home to move the cursor to the start of the line.
dispatcher.executeDispatch(document, ".uno:GoToStartOfLine", "", 0, Array())

rem (13) Press Ctrl+V to paste the selected number to the start of the line.
dispatcher.executeDispatch(document, ".uno:Paste", "", 0, Array())

rem (14) Press Backspace to remove the extra space.
dispatcher.executeDispatch(document, ".uno:SwBackspace", "", 0, Array())

rem (15) Press Tab to insert a tab between the number and the name.
dim args17(0) as new com.sun.star.beans.PropertyValue
args17(0).Name = "Text"
args17(0).Value = CHR$(9)

dispatcher.executeDispatch(document, ".uno:InsertText", "", 0, args17())
rem (16) Press Home to move to the start of the line.
dispatcher.executeDispatch(document, ".uno:GoToStartOfLine", "", 0, Array())

rem (17) Press Down Arrow to move to the next line.
dim args19(1) as new com.sun.star.beans.PropertyValue
args19(0).Name = "Count"
args19(0).Value = 1
args19(1).Name = "Select"
args19(1).Value = false

dispatcher.executeDispatch(document, ".uno:GoDown", "", 0, args19())
end sub
```

Cursor movements are used for all operations (as opposed to searching). If run on the DONTKNOW line, the word *weight* is moved to the front of the line, and the first "The" is changed to "She". This is not perfect, but you should not run the macro on the lines that did not have the proper format. You need to do these manually.

Running a macro quickly

It is tedious to repeatedly run the macro using **Tools > Macros > Run Macro** on the main menu bar when the macro can be run from the IDE (Figure 334 on page 344).

1) Go to **Tools > Macros > Organize Macros > LibreOffice Basic** on the main menu bar to open the Basic Macro dialog (Figure 332 on page 343).

2) Select your macro and click **Edit** to open the macro in the IDE.

3) Click the **Run BASIC** icon ▶ on the Macro toolbar, or press the *F5* key, to run the macro.

4) Unless you change the first macro, it is the empty macro named Main. Modify Main so that it reads as shown in Listing 5.

5) Now, you can run CopyNumToCol1 by repeatedly clicking the **Run Basic** icon in the toolbar of the IDE. This is very fast and easy, especially for temporary macros that will be used a few times and then discarded.

Listing 5: Modify Main to call CopyNumToCol1.

```
Sub Main
  CopyNumToCol1
End Sub
```

Macro recorder failures

Sometimes the macro recorder has a failure and understanding LibreOffice internal workings helps to understand how and why the macro recorder sometimes fails. The primary offender is related to the dispatch framework and its relationship to the macro recorder.

Dispatch framework

The purpose of the dispatch framework is to provide uniform access to components (documents) for commands that usually correspond to menu items. Using **File > Save** from the main menu bar, the shortcut keys *Ctrl+S*, or clicking the **Save** icon are all of commands that are translated into the same "dispatch command".

The dispatch framework can also be used to send "commands" back to the User Interface (UI). For example, after saving the document, the File Save command is disabled. As soon as the document has been changed, the File Save command is enabled.

A dispatch command is text, for example .uno:InsertObject or .uno:GoToStartOfLine. The command is sent to the document frame and this passes on the command until an object is found that can handle the command.

How the macro recorder uses the dispatch framework

The macro recorder records the generated dispatches. The recorder is relatively simple tool to use and the same commands that are issued are recorded for later use. The problem is that not all dispatched commands are complete. For example, inserting an object generates the following code:

```
dispatcher.executeDispatch(document, ".uno:InsertObject", "", 0, Array())
```

It is not possible to specify what kind of object to create or insert. If an object is inserted from a file, you cannot specify which file to insert.

Recording a macro and using **Tools > Options** on the main menu bar to open and modify configuration items, the generated macro does not record any configuration changes. In fact, the generated code is commented so it will not even be run.

```
rem dispatcher.executeDispatch(document,
    ".uno:OptionsTreeDialog", "", 0, Array())
```

If a dialog is opened, a command to open the dialog is likely to be generated. Any work done inside the dialog is not usually recorded. Examples of this include macro organization dialogs, inserting special characters, and similar types of dialogs. Other possible problems using the macro recorder include things such as inserting a formula, setting user data, setting filters in Calc, actions in database forms, and exporting a document to an encrypted PDF file. You never know for certain what will work unless you try it. For example, the actions from the search dialog are properly captured.

Other options

When the macro recorder is not able to solve a specific problem, the usual solution is to write code using the LibreOffice objects. Unfortunately, there is a steep learning curve for these LibreOffice objects. It is usually best to start with simple examples and then increase the scope of macros as you learn more. Learning to read generated macros is a good place to start.

If you record Calc macros, and the recorder can correctly generate a macro, there is an add-in available which converts Calc macros when they are recorded. The final code manipulates

LibreOffice objects rather than generating dispatches. This can be very useful for learning the object model and can be downloaded directly from the web site:

http://www.paolo-mantovani.org/downloads/DispatchToApiRecorder/

Macro organization

In LibreOffice, macros are grouped in modules, modules are grouped in libraries, and libraries are grouped in library containers. A library is usually used as a major grouping for either an entire category of macros, or for an entire application. Modules usually split functionality, such as user interaction and calculations. Individual macros are subroutines and functions. Figure 337 shows an example of the hierarchical structure of macro libraries in LibreOffice.

Go to **Tools > Macros > Organize Macros > LibreOffice Basic** on the main menu bar to open the LibreOffice Basic Macros dialog (Figure 332 on page 343). All available library containers are shown in the *Macro from* list. Every document is a library container, capable of containing multiple libraries. The application itself acts as two library containers, one container for macros distributed with LibreOffice called LibreOffice Macros, and one container for personal macros called My Macros.

The LibreOffice Macros are stored with the application runtime code, which may not be editable to you unless you are an administrator. This helps protect these macros because they should not be changed and you should not store your own macros in the LibreOffice container.

Unless your macros are applicable to a single document, and only to a single document, your macros will probably be stored in the My Macros container. The My Macros container is stored in your user area or home directory.
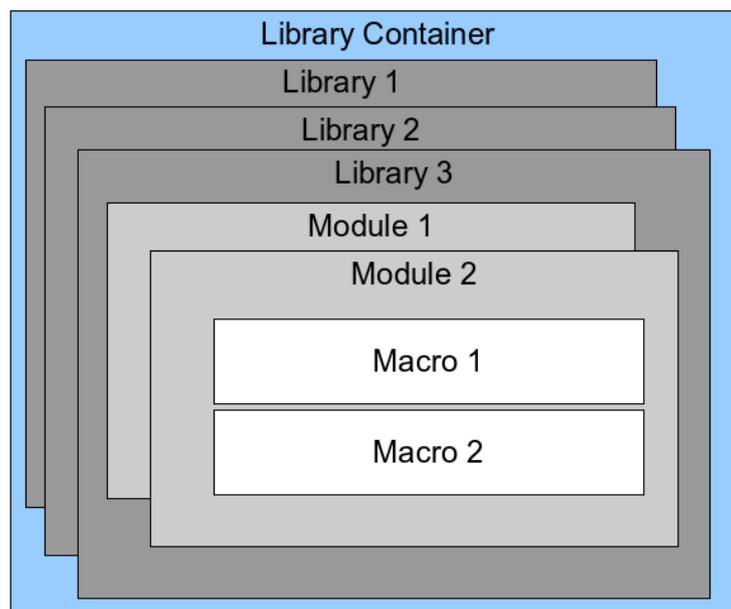
Figure 337: Macro Library hierarchy

If a macro is contained in a document, then a recorded macro will attempt to work on that document; because it primarily uses "ThisComponent" for its actions.

Every library container contains a library named *Standard*. It is better to create your own libraries with meaningful names than to use the Standard library. Not only are meaningful names easier to manage, but they can also be imported into other library containers whereas the Standard library cannot.

Caution

LibreOffice allows you to import libraries into a library container, but it will not allow you to overwrite the library named Standard. Therefore, if you store your macros in the Standard library, you cannot import them into another library container.

Just as it makes good sense to give your libraries meaningful names, it is prudent to use meaningful names for your modules. By default, LibreOffice uses names such as Module1, Module2 and so on.

As you create your macros, you must decide where to store them. Storing a macro in a document is useful if the document will be shared and you want the macro to be included with the document. Macros stored in the application library container named My Macros, however, are globally available to all documents.

Macros are not available until the library that contains them is loaded. The Standard library and Template library, however, are automatically loaded. A loaded library is displayed differently from a library that is not loaded. To load the library and the modules it contains, double-click on the library.

Where are macros stored?

LibreOffice stores user-specific data in a directory in the home directory for each user. The location is operating system specific. Go to **Tools > Options > LibreOffice > Paths** on the main menu bar to view where other configuration data are stored. For example, on computer running Windows XP, this is `C:\Documents and Settings\<user name>\Application Data`. User macros are stored in `LibreOffice\4\user\basic`. Each library is stored in its own directory off the basic directory.

For casual use, it is not necessary to understand where macros are stored. If you know where they are stored, however, you can create a backup, share your macros, or inspect them if there is an error.

Go to **Tools > Macros > Organize Dialogs** on the main menu bar to open the LibreOffice Macro Organizer dialog (Figure 333 on page 343). Alternatively, go to **Tools > Macros > Organize Macros > LibreOffice Basic** on the main menu bar to open the LibreOffice Macros dialog (Figure 332 on page 343) and then click the **Organizer** button.

Importing macros

The LibreOffice Macro Organizer dialog allows you to import macro libraries into your document as well as creating, deleting, and renaming libraries, modules, and dialogs.

1) Select the library container to use and then click **Import** to import macro libraries (Figure 333 on page 343).

2) Navigate to the directory containing the library to import (Figure 338). There are usually two files from which to choose, dialog.xlb and script.xlb. It does not matter which of these two files you select; both will be imported. Macros can be stored in libraries inside LibreOffice documents. Select a document rather than a directory on disk to import libraries contained in a document.

Note

You cannot import the library named Standard.
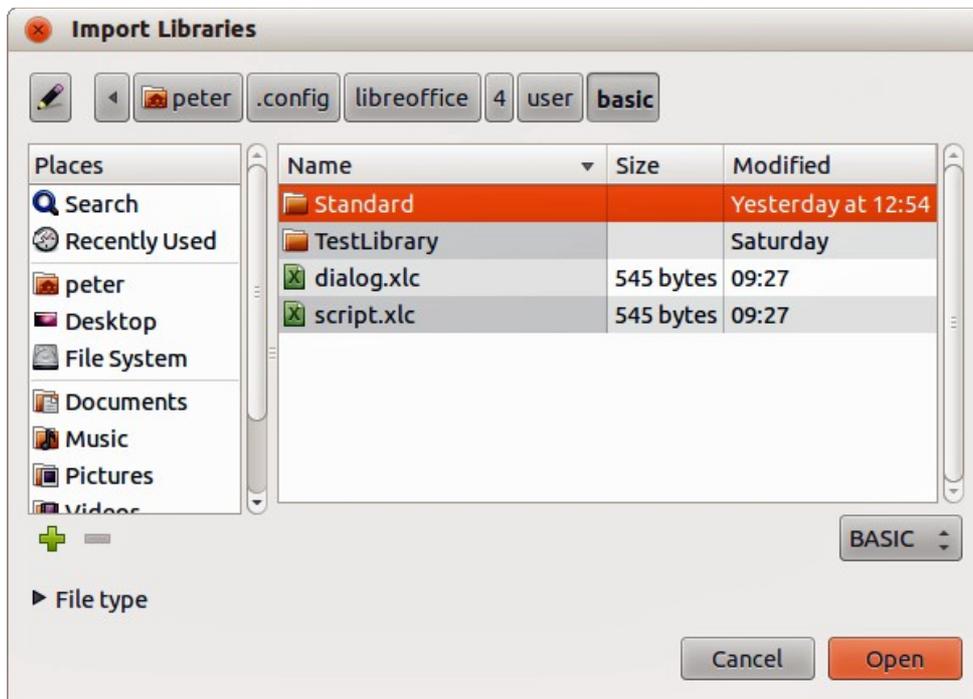
Figure 338: Navigating to a macro library

▶ **Tip**

On a computer operating Linux, the LibreOffice specific files are stored in the home directory of a user in a directory whose name begins with a period. Directories and files with names beginning with a period may be hidden and not shown in a normal selection dialog. If using LibreOffice dialogs, rather than the operating system specific dialogs, type the name of the desired directory in the Name field.

3) Select a file and click **Open** to continue and open the Import Libraries dialog (Figure 339).
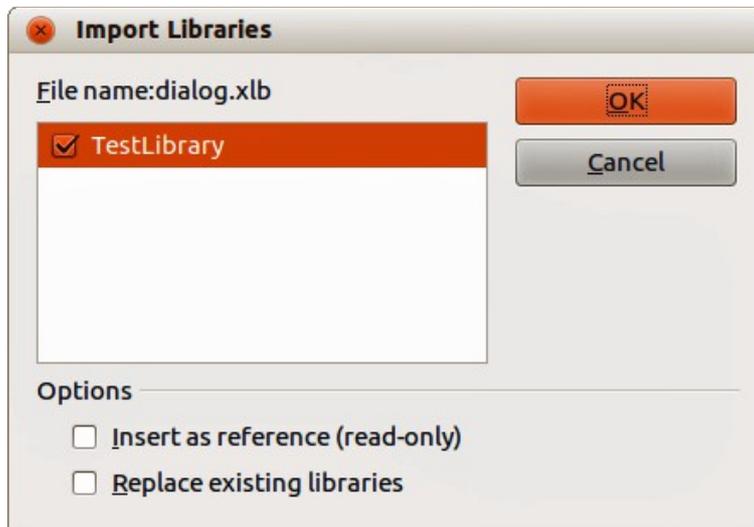
Figure 339: Choose library import options

4) Select the following options for importing libraries:

a) If no options are selected, the library is copied to your user macro directory. However, if the library you are importing has the same name and you are importing into the same location, it will not be copied.

b) Select **Replace existing libraries** if the library you want to import has the same name and you want to replace the existing library.

c) Select **Insert as reference** if you want to use the library as reference, but not import the library into your document. When a library is used as a reference, it remains in its current location and is read only.

5) Click **OK** to import the macro library you selected.

Downloading macros to import

Macros are available for download. Some macros are contained in documents, some as regular files that you must select and import, and some as macro text that should be copied and pasted into the Basic IDE. See "Adding a macro" on page 342 on how to add macros to your macro library and "Viewing and editing macros" on page 346 on how to edit macros using the Basic IDE.

Some macros are available as free downloads on the Internet (see Table 7).

Table 7. Macro examples

Location	Description
http://www.pitonyak.org/oo.php	Reference materials regarding macros.
http://www.pitonyak.org/database/	Reference materials regarding database macros.
https://wiki.documentfoundation.org/Macros	Lots of links to macros.
http://en.libreofficeforum.org/ http://forum.openoffice.org/en/forum/	Forums, with many examples and help.

How to run a macro

Although you can use **Tools > Macros > Run Macro** to run all macros, this is not efficient for frequently run macros. See "Running a macro" on page 345 for more information.

A more common technique for frequently used macros is to link the macro to a toolbar icon, menu item, keyboard shortcut, or a button embedded in a document. While choosing a method, it is also good to ask questions such as:

- Should the macro be available for only one document, or globally for all documents?
- Is the macro for a specific document type, such as a Calc document?
- How frequently will the macro be used?

The answers will determine where to store the macro and how to make it available. For example, you will probably not add a rarely used macro to a toolbar. To help determine your choices, see Table 8.

Table 8. Methods for starting a macro

Type	LibreOffice	Document Type	Document
Toolbar	No	Yes	Yes
Menu	No	Yes	Yes
Shortcut	Yes	Yes	No
Event	Yes	No	Yes

Toolbars, menu items, and keyboard shortcuts

To add a menu item, keyboard shortcut, or toolbar icon that calls a macro, use the Customize dialog (Figure 340). The Customize dialog contains pages to configure menus, keyboard shortcuts, toolbars, and events. To open this dialog, go to **Tools > Customize** on the main menu bar or right-click in an empty space on a toolbar and select **Customize Toolbar** from the context menu.

Complete coverage of the Customize dialog is beyond the scope of this chapter. Click the **Help** button to access the help pages included with LibreOffice or see *Chapter 14 Customizing LibreOffice*.
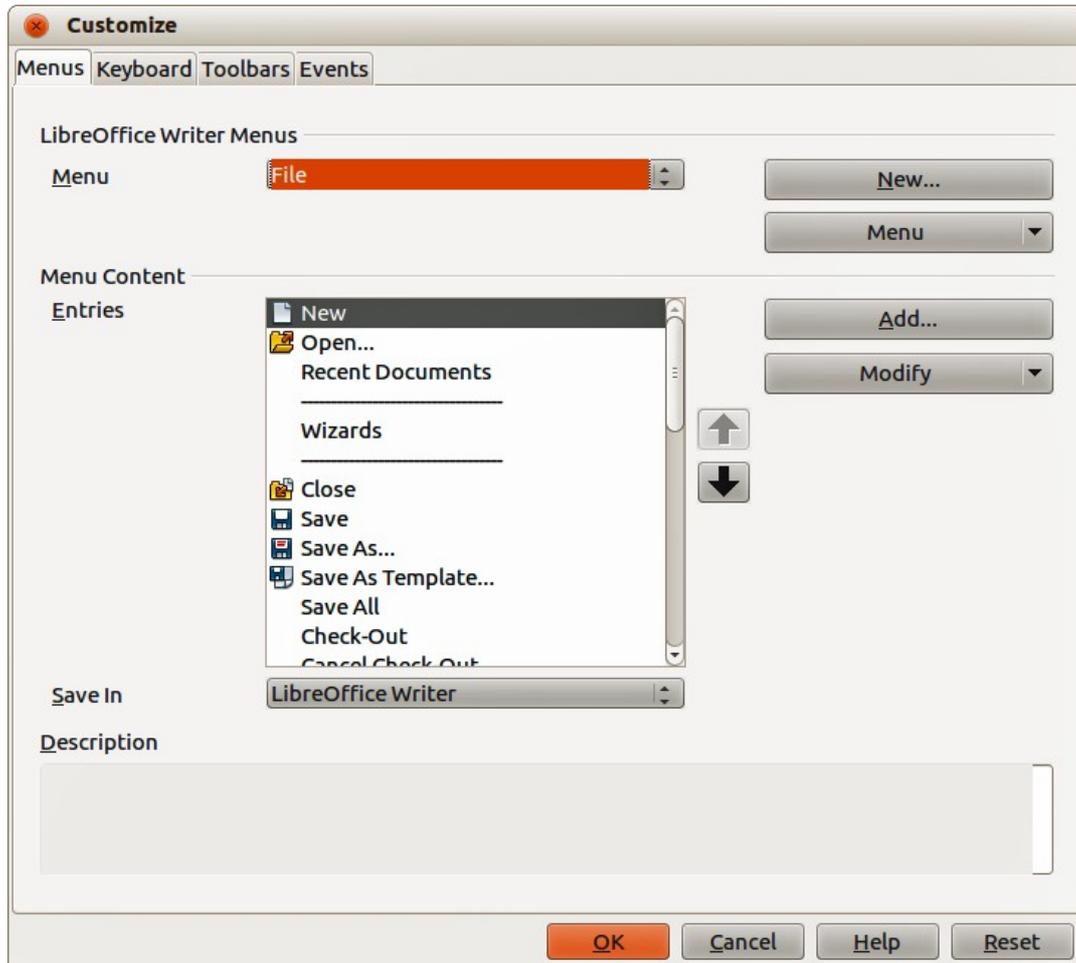
Figure 340: Menus page in Customize dialog

Events

Whenever something happens in LibreOffice, it is called an event. For example, opening a document, pressing a key, or moving the mouse cursor are all events. LibreOffice allows events to trigger the execution of a macro; the macro is then called an event handler. Full coverage of event handlers is well beyond the scope of this document, but a little knowledge can accomplish much.

Caution

> Be careful when you configure an event handler. For example, assume that you write an event handler that is called every time that a key is pressed, but you make a mistake so the event is not properly handled. One possible result is that your event handler will consume all key presses, forcing you to kill LibreOffice.

1) Go to **Tools > Customize** on the main menu bar to open the Customize dialog and select the Events tab (Figure 341). The events in the Customize dialog are related to the entire application and specific documents.

2) In **Save In**, select LibreOffice, or a specific document from the drop down menu to save your event.

3) A common use is to assign the Open Document event to call a specific macro. The macro then performs certain setup tasks for the document. Select the desired event and click **Macro** to open the Macro Selector dialog (Figure 335 on page 345).

4) Select the desired macro and click **OK** to assign the macro to the event. The Events page shows that the event has been assigned to a macro.
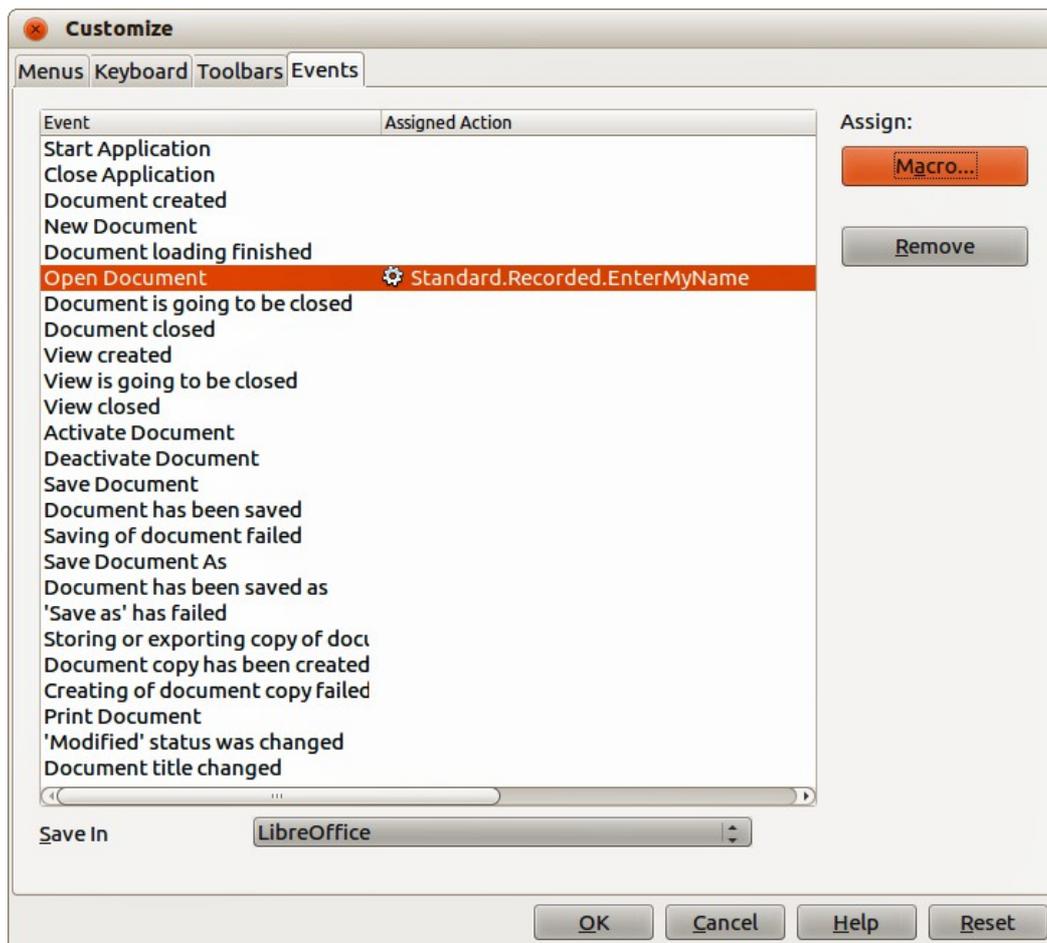
Figure 341: Events page in Customize dialog

Many objects in a document can be set to call macros when events occur. The most common use is to add a control, such as a button, into a document. Even double-clicking on a graphic opens a dialog with a Macros tab that allows you to assign a macro to an event.

Extensions

An extension is a package that can be installed into LibreOffice to add new functionality. Extensions can be written in almost any programming language and may be simple or sophisticated. Extensions can be grouped into types:

- Calc Add-Ins, which provide new functionality for Calc, including new functions that act like normal built-in functions

- New components and functionality, which normally include some level of User Interface (UI) integration such as new menus or toolbars

- Pivot Tables that are used directly in Calc

- Chart Add-Ins with new chart types

- Linguistic components such as spelling checkers

- Document templates and images

Although individual extensions can be found in several places, there is currently an extension repository at: http://extensions.libreoffice.org/ and some documentation at http://libreplanet.org/wiki/Group:OpenOfficeExtensions/List.

For more about obtaining and installing extensions, see Chapter 14, Customizing LibreOffice.

Writing macros without the recorder

The examples covered in this chapter are created using the macro recorder and the dispatcher. You can also write macros that directly access the objects that comprise LibreOffice if you are confident in writing computer code. In other words, you can create a macro that directly manipulates a document.

Directly manipulating LibreOffice internal objects is an advanced topic that is beyond the scope of this chapter. A simple example, however, demonstrates how this works.

Listing 6: Append the text "Hello" to the current document.

```
Sub AppendHello
  Dim oDoc
  Dim sTextService$
  Dim oCurs

  REM ThisComponent refers to the currently active document.
  oDoc = ThisComponent

  REM Verify that this is a text document
  sTextService = "com.sun.star.text.TextDocument"
  If NOT oDoc.supportsService(sTextService) Then
    MsgBox "This macro only works with a text document"
    Exit Sub
  End If

  REM Get the view cursor from the current controller.
  oCurs = oDoc.currentController.getViewCursor()

  REM Move the cursor to the end of the document
  oCurs.gotoEnd(False)

  REM Insert text "Hello" at the end of the document
  oCurs.Text.insertString(oCurs, "Hello", False)
End Sub
```

Finding more information

Numerous resources are available that provide help with writing macros. Use **Help > LibreOffice Help** to open the LibreOffice help pages. The upper left corner of the LibreOffice help system contains a drop-down list that determines which help set is displayed. To view the help for Basic, choose *LibreOffice Basic* from this list.

Included material

Many excellent macros are included with LibreOffice. Use **Tools > Macros > Organize Macros > LibreOffice Basic** to open the Macro dialog. Expand the Tools library in the LibreOffice library container. Inspect the Debug module—some good examples include WritedbgInfo(document) and printdbgInfo(sheet).

Online resources

The following links and references contain information regarding macro programming:

http://ask.libreoffice.org/ (a Q & A site where volunteers answer questions related to LibreOffice)

http://forum.openoffice.org/en/forum/ (Apache OpenOffice community forum; volunteers answer questions about LibreOffice as well)

http://en.libreofficeforum.org/ (Unofficial LibreOffice community forum)

http://api.openoffice.org/docs/common/ref/com/sun/star/module-ix.html (official IDL reference; here you will find almost every command with a description)

https://wiki.documentfoundation.org/Documentation/Other_Documentation_and_Resources (look in Programmers section for *BASIC Programmers' Guide* and *Developers' Guide*; the latter contains a detailed explanation)

http://www.pitonyak.org/oo.php (macro page for Andrew Pitonyak)

http://www.pitonyak.org/AndrewMacro.odt (numerous examples of working macros)

http://www.pitonyak.org/OOME_3_0.odt (Andrew Pitonyak's book on macros)

http://www.pitonyak.org/database/ (numerous macro examples using Base)

Printed and eBook materials

There are currently no books specific to LibreOffice macros that are available for download.

Information in the following books is mostly applicable to LibreOffice; the books are available for purchase in both printed and eBook form from their publishers:

Dr. Mark Alexander Bain's *Learn OpenOffice.org Spreadsheet Macro Programming*. See http://www.packtpub.com/openoffice-ooobasic-calc-automation/book.

Roberto Benitez's *Database Programming with OpenOffice.org Base & Basic*. See http://www.lulu.com/product/paperback/database-programming-with-openofficeorg-base-basic/3568728

Chapter 14
Customizing LibreOffice

Introduction

This chapter describes some common customizations that you may wish to carry out.

You can customize menus, toolbars, and keyboard shortcuts in LibreOffice, add new menus and toolbars, and assign macros to events. However, you cannot customize context (right-click) menus.

Other customizations are made easy by extensions that you can install from the LibreOffice website or from other providers.

🟢 **Note**

> Customizations to menus and toolbars can be saved in a template. To do so, first save them in a document and then save the document as a template as described in Chapter 3, Using Styles and Templates.

Customizing menu content

In addition to changing the menu font (described in Chapter 2, Setting up LibreOffice), you can add and rearrange categories on the menu bar, add commands to menus, and make other changes.

To customize menus:

1) Choose **Tools > Customize**.
2) On the **Customize** dialog (Figure 342), choose the **Menus** page.
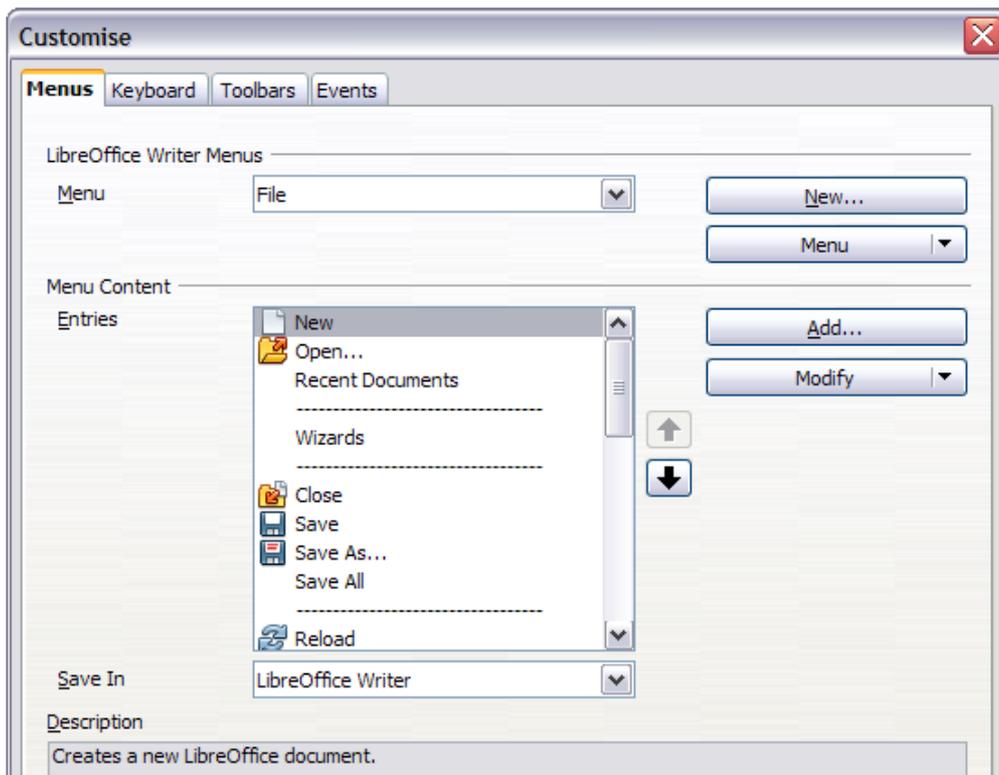
Figure 342: The Menus page of the Customize dialog

3) In the *Save In* drop-down list, choose whether to save this changed menu for the application (for example, LibreOffice Writer) or for a selected document (for example, SampleDocument.odt).

4) In the section **LibreOffice [name of the program** (example: Writer)**] Menus**, select from the *Menu* drop-down list the menu that you want to customize. The list includes all the main menus as well as submenus (menus that are contained under another menu). For example, in addition to *File*, *Edit*, *View*, and so on, there is *File | Send* and *Edit | Changes*. The commands available for the selected menu are shown in the central part of the dialog.

5) **To** customize the selected menu, click on the **Modify** button. You can also add commands to a menu by clicking on the **Add** button. These actions are described in the following sections. Use the up and down arrows next to the Entries list to move the selected menu item to a different position.

6) When you have finished making all your changes, click **OK** (not shown in illustration) to save them.

Creating a new menu

In the *Menus* page of the Customize dialog, click **New** to display the New Menu dialog, shown in Figure 343.

1) Type a name for your new menu in the **Menu name** box.

2) Use the up and down arrow buttons to move the new menu into the required position on the menu bar.

3) Click **OK** to save.

The new menu now appears on the list of menus in the Customize dialog. (It will appear on the menu bar itself after you save your customizations.)

After creating a new menu, you need to add some commands to it, as described in "Adding a command to a menu" on page 364.
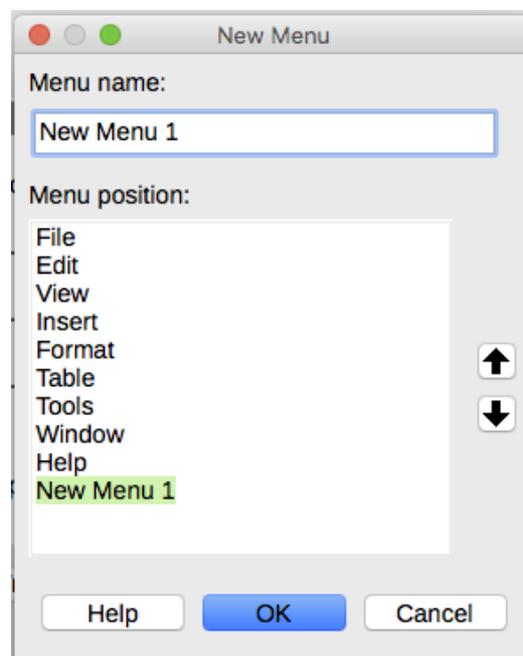
Figure 343: Adding a new menu

Modifying existing menus

To modify an existing menu, either user-made or inbuilt, select it in the *Menu* list and click the **Menu** button to drop down a list of modifications: **Move**, **Rename**, **Delete**. Not all of these modifications can be applied to all the entries in the *Menu* list. For example, **Rename** and **Delete** are not available for the supplied menus, and **Move** is not available for submenus.

To move a menu (such as *File*), choose **Menu > Move**. A dialog similar to the one shown in Figure 343 (but without the **Menu name** box) opens. Use the up and down arrow buttons to move the menu into the required position.

To move submenus (such as *File | Send*), select the main menu (**File**) in the Menu list and then, in the *Menu Content* section of the dialog, select the submenu (**Send**) in the *Entries* list and use the arrow keys to move it up or down in the sequence. Submenus are easily identified in the *Entries* list by a small black triangle on the right hand side of the name.

In addition to renaming, you can allocate a letter in a custom menu's name, which will become underlined, to be used as a keyboard shortcut, allowing you to select that menu by pressing *Alt+* that letter. Existing submenus can be edited to change the letter which is used to select their default shortcut.

1) Select a custom menu or a submenu in the *Menu* drop-down list.

2) Click the **Menu** button and select **Rename**.

3) Add a tilde (~) in front of the letter that you want to use as an accelerator. For example, to select the **Send** submenu command by pressing *S* (after opening the File menu using *Alt+F*), enter **~Send**. This changes it from the default *d*.

🟢 **Note**

> It is possible to use a letter already in use in the menu list (for example, in the Insert menu, the letter *v* is used in *Envelope* and in *Movie and sound* as an accelerator). However, you should use an unused letter if possible, to make it simpler for the user to navigate.

Adding a command to a menu

You can add commands to both the supplied menus and menus you have created. On the Customize dialog, select the menu in the *Menu* list and click the **Add** button in the *Menu Content* section of the dialog.
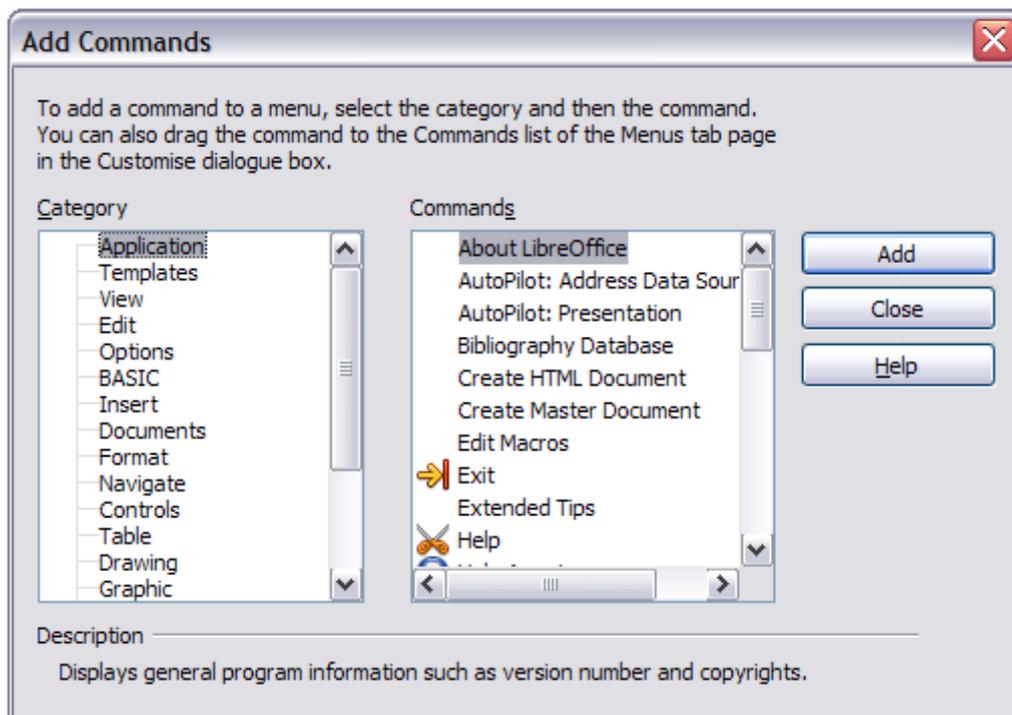
Figure 344: Adding a command to a menu

On the Add Commands dialog (Figure 344), select a category and then the command, and click **Add**. The dialog remains open, so you can select several commands. When you have finished adding commands, click **Close**. Back on the Customize dialog, you can use the up and down arrow buttons to arrange the commands in your preferred sequence.

Modifying menu entries

In addition to changing the sequence of entries on a menu or submenu, you can add submenus, rename or delete the entries, and add group separators.

To begin, select the menu or submenu to be modified from the *Menu* list near the top of the Customize page, then select the entry in the *Entries* list under *Menu Content*. Click the **Modify** button and choose the required action from the drop-down list of actions.

Most of the actions should be self-explanatory. **Begin a group** adds a separator line after the highlighted entry.

Customizing toolbars

You can customize toolbars in several ways, including choosing which icons are visible and locking the position of a docked toolbar (as described in Chapter 1, Introducing LibreOffice), and adding or deleting icons (commands) in the list of those available on a toolbar. You can also create new toolbars. This section describes how to create new toolbars and add or delete icons on existing ones.

To get to the toolbar customization dialog (Figure 345), do any of the following:

- On the toolbar, right-click in the toolbar and choose **Customize Toolbar**.
- Choose **View > Toolbars > Customize** from the menu bar.
- Choose **Tools > Customize** from the menu bar and go to the *Toolbars* page.
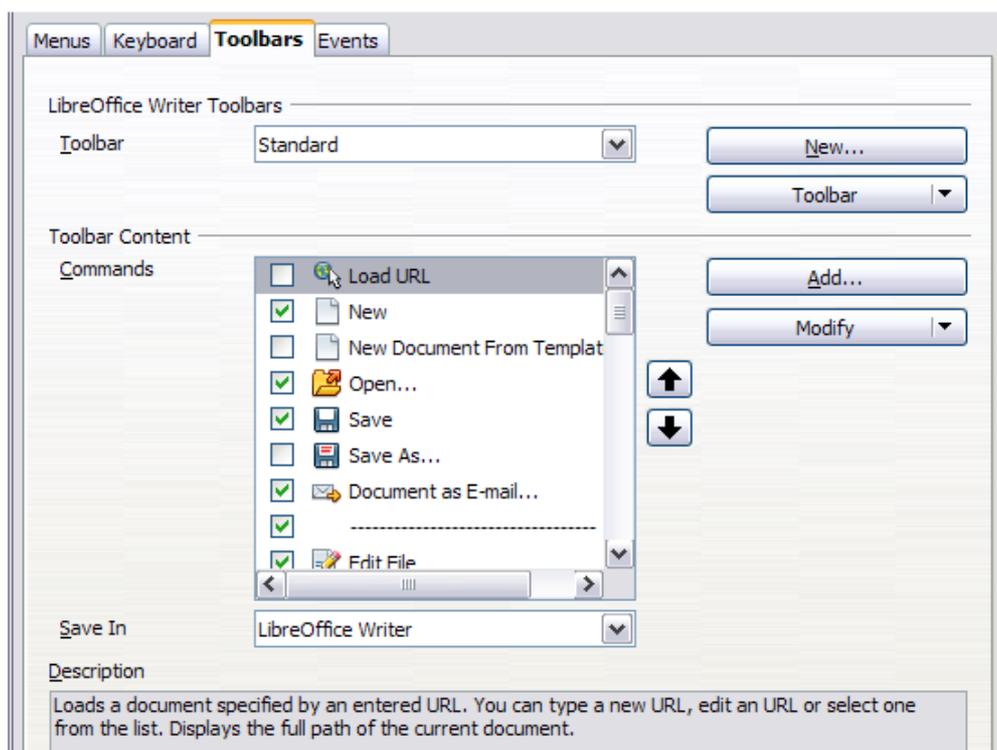
Figure 345: The Toolbars page of the Customize dialog

Modifying existing toolbars

To modify an existing toolbar:

1) In the *Save In* drop-down list, choose whether to save this changed toolbar for the application (for example, Writer) or for a selected document.

2) In the section **LibreOffice [name of the program** (example: Writer)**] > Toolbars**, select from the *Toolbar* drop-down list the toolbar that you want to customize.

3) Click on the **Toolbar** or **Modify** buttons, and add commands to a toolbar by clicking on the **Add** button. You can also create a new toolbar by clicking on the **New** button. These actions are described in the following sections.

4) When you have finished making all your changes, click **OK** to save them.

Creating a new toolbar

To create a new toolbar:

1) Choose **Tools > Customize > Toolbars** from the menu bar.

2) Click **New**. On the *Name* dialog, type the new toolbar's name and choose from the **Save In** drop-down list where to save this changed menu: for the application (for example, Writer) or for a selected document. Click **OK**.
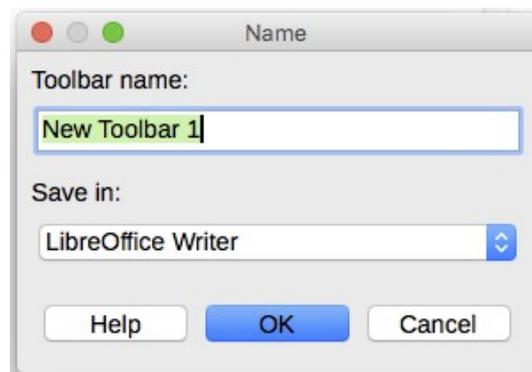
The new toolbar now appears on the list of toolbars in the Customize dialog. After creating a new toolbar, you need to add some commands to it, as described below.

Adding a command to a toolbar

If the list of available buttons for a toolbar does not include all the commands you want on that toolbar, you can add commands. When you create a new toolbar, you need to add commands to it.

1) On the *Toolbars* page of the Customize dialog, select the toolbar in the Toolbar list and click the **Add** button in the Toolbar Content section of the dialog.

2) The Add Commands dialog is the same as for adding commands to menus (Figure 344). Select a category and then the command, and click **Add**. The dialog remains open, so you can select several commands. When you have finished adding commands, click **Close**. If you insert an item which does not have an associated icon, the toolbar will display the full name of the item: the next section describes how to choose an icon for a toolbar command.

3) Back on the Customize dialog, you can use the up and down arrow buttons to arrange the commands in your preferred sequence.

4) When you have finished making changes, click **OK** to save.

Choosing icons for toolbar commands

Toolbar buttons usually have icons, not words, on them, but not all of the commands have associated icons.

To choose an icon for a command, select the command and click **Modify > Change icon**. On the Change Icon dialog, you can scroll through the available icons, select one, and click **OK** to assign it to the command (Figure 346).
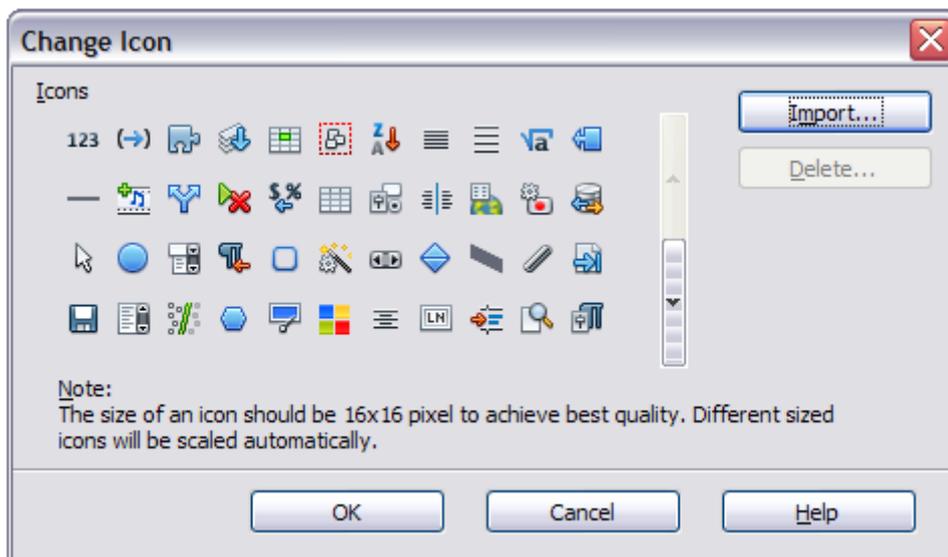
Figure 346: Change Icon dialog

To use a custom icon, create it in a graphics program and import it into LibreOffice by clicking the **Import** button on the Change Icon dialog. Custom icons should be 16 x 16 pixels in size to achieve the best quality and should not contain more than 256 colors.

Example: Adding a Fax icon to a toolbar

You can customize LibreOffice so that a single click on an icon automatically sends the current document as a fax.

1) Be sure the fax driver is installed. Consult the documentation for your fax modem for more information.

2) Choose **Tools > Options > LibreOffice Writer > Print**. The dialog shown in Figure 347 opens.

3) Select the fax driver from the **Fax** list and click **OK**.

4) Right-click in the Standard toolbar. In the drop-down menu, choose **Customize Toolbar**. The *Toolbars* page of the Customize dialog appears (Figure 345). Click **Add**.

5) On the Add Commands dialog (Figure 348), select **Documents** in the *Category* list, then select **Send Default Fax** in the *Commands* list. Click **Add**. Now you can see the new icon in the Commands list.

6) In the *Commands* list, click the up or down arrow button to position the new icon where you want it. Click **OK** and then click **Close**.
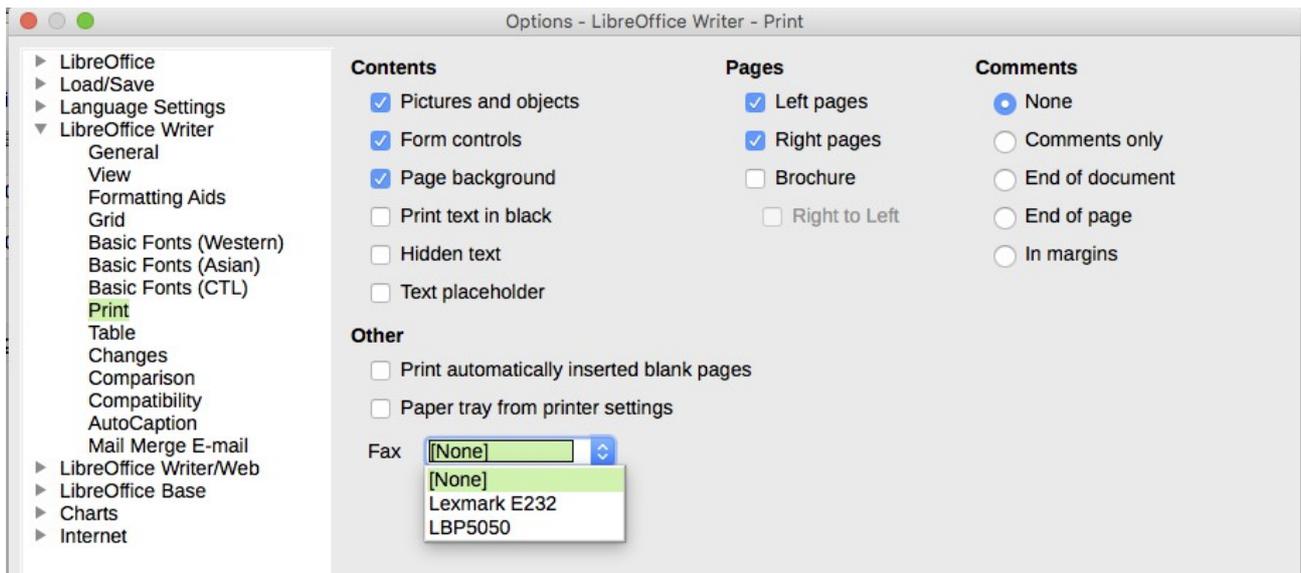
Figure 347: Setting up LibreOffice for sending faxes

Your toolbar now has a new icon to send the current document as a fax.
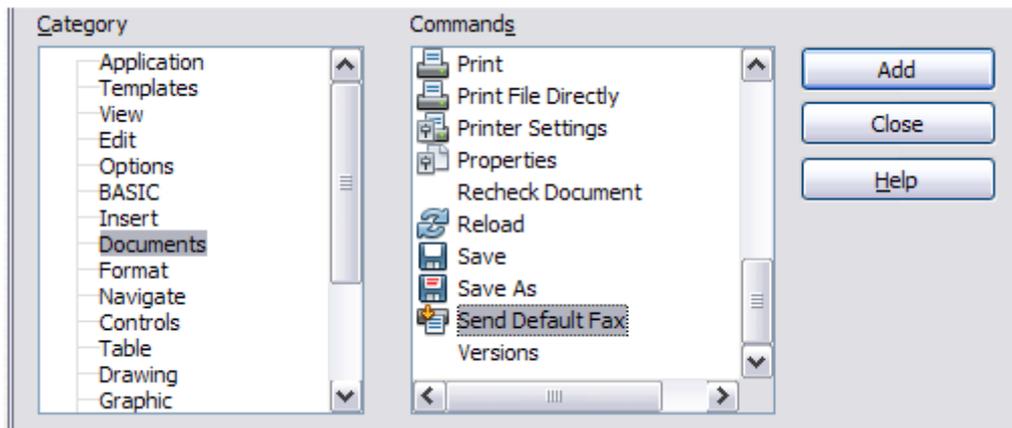
Figure 348: Adding a Send Fax command to a toolbar

Assigning shortcut keys

In addition to using the built-in keyboard shortcuts (listed in Appendix A), you can define your own. You can assign shortcuts to standard LibreOffice functions or your own macros and save them for use with the entire LibreOffice suite.

Caution

Be careful when reassigning your operating system's or LibreOffice's predefined shortcut keys. Many key assignments are universally understood shortcuts, such as *F1* for Help, and are always expected to provide certain results. Although you can easily reset the shortcut key assignments to the LibreOffice defaults, changing some common shortcut keys can cause confusion, especially if other users share your computer.

To adapt shortcut keys to your needs, use the Customize dialog, as described below.

1) Select **Tools > Customize > Keyboard**. The Customize dialog opens.

2) To have the shortcut key assignment available in all components of LibreOffice select the **LibreOffice** button.

3) Next select the required function from the *Category* and *Function* lists.

4) Now select the desired shortcut keys in the *Shortcut keys* list and click the **Modify** button at the upper right.

5) Click **OK** to accept the change. Now the chosen shortcut keys will execute the function chosen in step 3 above whenever they are pressed.

Note

All existing shortcut keys for the currently selected *Function* are listed in the *Keys* selection box. If the *Keys* list is empty, it indicates that the chosen key combination is free for use. If it were not, and you wanted to reassign a shortcut key combination that is already in use, you must first delete the existing key.

Shortcut keys that are grayed-out in the listing on the Customize dialog, such as *F1* and *F10*, are not available for reassignment.

Example: Assigning styles to shortcut keys

You can configure shortcut keys to quickly assign styles in your document. Some shortcuts are predefined, such as *Ctrl+0* for the *Text body* paragraph style, *Ctrl+1* for the *Heading 1* style, and *Ctrl+2* for *Heading 2*. You can modify these shortcuts and create your own.

1) Click **Tools > Customize > Keyboard**. The Keyboard page of the Customize dialog (Figure 349) opens.

2) To have the shortcut key assignment available only with one component (for example, Writer), select that component's name in the upper right corner of the page; otherwise select **LibreOffice** to make it available to every component.

3) Choose the shortcut keys you want to assign a style to. In this example, we have chosen *Ctrl+9*. This enables the **Modify** button.

4) In the *Functions* section at the bottom of the dialog, scroll down in the *Category* list to *Styles*. Click the expansion symbol (usually a + sign or triangle) to expand the list of styles.

5) Choose the category of style. (This example uses a paragraph style, but you can also choose character styles and others.) The *Function* list will display the names of the available styles for the selected category. The example shows some of LibreOffice's predefined styles.

6) To assign *Ctrl+9* to be the shortcut key combination for the List 1 style, select *List 1* in the *Function* list, and then click **Modify**. *Ctrl+9* now appears in the *Keys* list on the right, and *List 1* appears next to *Ctrl+9* in the Shortcut keys box at the top.

7) Make any other required changes, and then click **OK** to save these settings and close the dialog.
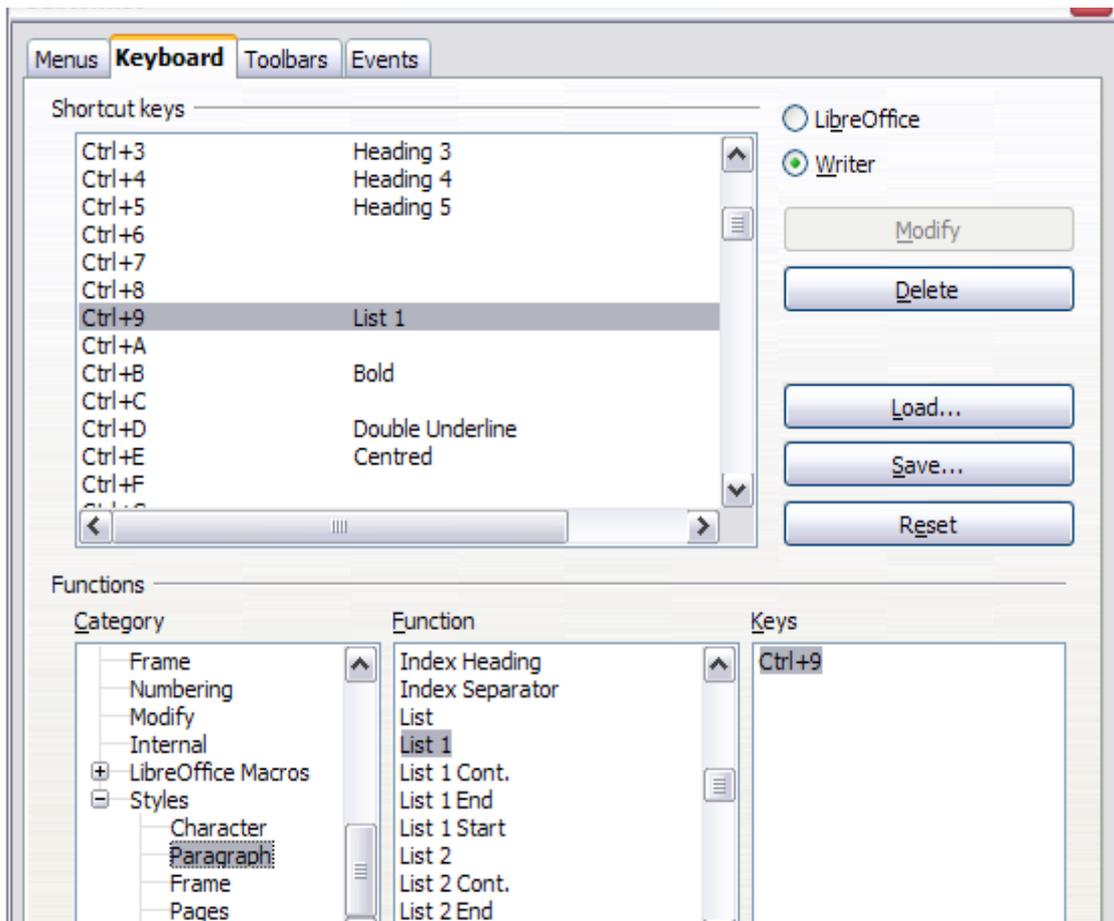
Figure 349: Defining keyboard shortcuts for applying styles

Saving changes to a file

Changes to the shortcut key assignments can be saved in a keyboard configuration file for use at a later time, thus permitting you to create and apply different configurations as the need arises. To save keyboard shortcuts to a file:

1) After making your keyboard shortcut assignments, click the **Save** button at the right of the Customize dialog (Figure 349).

2) In the Save Keyboard Configuration dialog, select *All files* from the **Save as Type** list.

3) Next enter a name for the keyboard configuration file in the **File name** box, or select an existing file from the list. If you need to, browse to find a file from another location.

4) Click **Save**. A confirmation dialog appears if you are about to overwrite an existing file, otherwise there will be no feedback and the file will be saved.

Loading a saved keyboard configuration

To load a saved keyboard configuration file and replace your existing configuration, click the **Load** button at the right of the Customize dialog, and then select the configuration file from the Load Keyboard Configuration dialog.

Resetting the shortcut keys

To reset all of the keyboard shortcuts to their default values, click the **Reset** button near the bottom right of the Customize dialog. Use this feature with care as no confirmation dialog will be displayed; the defaults will be set without any further notice or user input.

Assigning macros to events

In LibreOffice, when something happens, we say that an event occurred. For example, a document was opened, a key was pressed, or the mouse moved. You can associate a macro with an event, so the macro is run when the event occurs. A common use is to assign the "open document" event to run a macro that performs certain setup tasks for the document.

To associate a macro with an event, use the Events page of the Customize dialog. For more information, see Chapter 13, Getting Started with Macros.

Adding functionality with extensions

An extension is a package that can be installed into LibreOffice to add new functionality.

Several extensions are shipped bundled with LibreOffice and are installed with the program. Others can be downloaded from various websites. The official extension repository is located at http://extensions.libreoffice.org/. These extensions are free of charge.

Some extensions from other sources are free of charge; others are available for a fee. Check the descriptions to see what licenses and fees apply to the ones that interest you.

Installing extensions

Extensions can be installed in any of three ways.

1) Directly from the *.oxt file in your system's file browser.

2) From your web browser, if it can be configured to open this file type from a web page hyperlink.

3) Directly from **Tools > Extension Manager** by clicking **Add** (Figure 350).
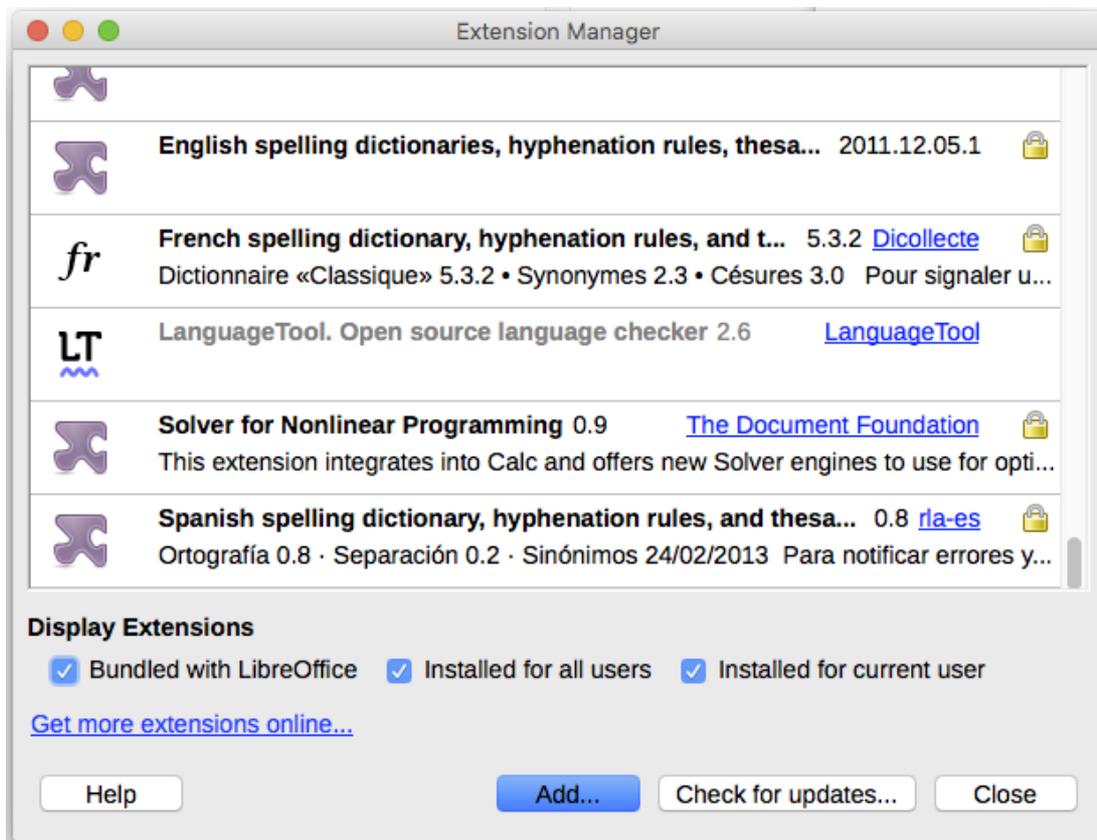
Figure 350: Using the Extension Manager

To install directly from a saved *.oxt file on your system, double-click the file.

To install from a suitably enabled web browser, select the hyperlink, and then select to Open the file.

In both cases, after the Extension Manager opens, a warning dialog opens for you to verify the installation and then continue. The file is installed as a "user only" file in a multi-user system.

To install directly from Extension Manager:

1) In LibreOffice, select **Tools > Extension Manager** from the menu bar. The option to view the extensions bundled with LibreOffice can be deselected to view more easily those installations that have been added by a user.

2) In the Extension Manager dialog (Figure 350), click **Add**.

3) A file browser window opens. Find and select the extension you want to install and click **Open**.

4) Users with administrator or root privileges will see a dialog where they can choose to install extensions "for all users" (**shared**) or "only for me" (**user**). Normal users without those privileges can install, remove, or modify extensions only for their own use (**user**).

5) The extension begins installing.

In all three cases, during the process you may be asked to accept a license agreement. When the installation is complete, the extension is listed in the Extension Manager dialog.

> **Tip**
>
> To get extensions that are listed in the repository, you can open the Extension Manager and click the **Get more extensions online** link. You do not need to download them separately.

Appendix A
Keyboard Shortcuts

Introduction

You can use LibreOffice without requiring a pointing device, such as a mouse or touchpad, by using its built-in keyboard shortcuts.

This appendix lists some of the most common built-in keyboard shortcuts that apply to all components of LibreOffice. For shortcuts specific to Writer, Calc, Impress, Draw, or Base, read the relevant component guide or search the application Help.

> **Note**
>
> Some of the shortcuts listed here may not work if your operating system uses the same shortcuts for other tasks.
>
> To resolve any conflicts, assign different keys to these shortcuts by reconfiguring either LibreOffice (see Chapter 14) or your operating system (see system documentation).

Assistive tools in LibreOffice

In addition to keyboard shortcuts, LibreOffice supports some assistive technology tools like screen magnification software, screen readers, and on-screen keyboards. Please note that accessibility support relies on Java technology for communications with assistive technology tools. This means that the first program startup may take a few seconds longer, because the Java runtime environment has to be started as well.

A current list of supported assistive tools can be found on the Wiki at http://wiki.documentfoundation.org/Accessibility.

Tip for Macintosh users

Some keystrokes are different on a Mac from those used in Windows and Linux. The following table gives some common substitutions for the instructions in this chapter. For a more detailed list, see the application Help.

Windows or Linux	Mac equivalent	Effect
Right-click	Control+click and/or right-click depending on computer system	Opens a context menu
Ctrl (Control)	⌘ (Command)	Used with other keys
F5	Shift+⌘+F5	Opens the Navigator
F11	⌘+T	Opens the Styles and Formatting window

Getting help

Shortcut Keys	Result
F1	Opens the LibreOffice Help dialog. In LibreOffice Help: jumps to the first help page of the selected tab.
Shift+F1	Turns the cursor into the *What's This?* question mark. Shows the tip for an item underneath the cursor.
Shift+F2	Shows tip for a selected item.
Esc	In LibreOffice Help: goes up one level.

General keyboard shortcuts

Opening menus and menu items

Shortcut Keys	Result
Alt+<?>	Opens a menu where <?> is the underlined character of the menu you want to open. For example, *Alt+F* opens the menu **File.**
	With the menu open, you will again find underlined characters. You can access these menu items directly by pressing the underlined character key. Where two menu items have the same underlined character, press the character key again to move to the next item.
	Example: to access the **Printer Settings** item of the **File** menu after opening it, press *R* twice to move from the initial **Digital Signatures** selection to **Printer Settings.**
	There may be instances where an item in a menu has no underlined character. This will have to be clicked directly.
Esc	Closes an open menu.
F6	Repeatedly pressing *F6* switches the focus and circles through the following objects:
	• Menu bar
	• Every toolbar from top to bottom and from left to right
	• Every free window from left to right
	• Document
Shift+F6	Switches through objects in the opposite direction.
Ctrl+F6	Switches the focus to the document.
F10 or *Alt*	Switches to the Menu bar and back.
Esc	Closes an open menu.

Accessing a menu command

Press *Alt* or *F6* or *F10* to select the first item on the menu bar (the **File** menu). With the *right-arrow*, the next menu to the right is selected; with the *left-arrow*, the previous menu. The *Home* and *End* keys select the first and the last item on the Menu bar.

The *down-arrow* opens a selected menu. An additional *down-arrow* or *up-arrow* moves the selection through the menu commands. The *right-arrow* opens any existing submenus.

Press *Enter* to run the selected menu command.

Running a toolbar command

Press *F6* repeatedly until the first icon on the toolbar is selected. Use the right and left arrows to select any icon on a horizontal toolbar. Similarly, use the up and down arrows to select any icon on a vertical toolbar. The *Home* key selects the first icon on a toolbar, and the *End* key the last.

Press *Enter* to run the selected icon. If the selected icon normally demands a consecutive mouse action, such as inserting a rectangle, then pressing the *Enter* key is not sufficient: in these cases press *Ctrl+Enter*.

Press *Ctrl+Enter* on an icon for creating a draw object. A draw object will be placed into the middle of the view, with a predefined size.

Press *Ctrl+Enter* on the Selection tool to select the first draw object in the document. If you want to edit, size, or move the selected draw object, first use *Ctrl+F6* to move the focus into the document.

Navigating and selecting with the keyboard

You can navigate through a document and make selections with the keyboard.

- To move the cursor, press the key or key combination given in the following table.
- To select the characters under the moving cursor, additionally hold down the *Shift* key when you move the cursor.

Key	Function	Plus Ctrl key
Right, left arrow keys	Moves the cursor one character to the left or to the right.	Moves the cursor one word to the left or to the right.
Up, down arrow keys	Moves the cursor up or down one line.	(*Ctrl+Alt*) Moves the cursor up or down one paragraph.
Home	Moves the cursor to the beginning of the current line.	Moves the cursor to the beginning of the document.
End	Moves the cursor to the end of the current line.	Moves the cursor to the end of the document.
PgUp	Scrolls up one page.	Moves the cursor to the header.
PgDn	Scroll down one page.	Moves the cursor to the footer.

Controlling dialogs

When you open any dialog, one element (such as a button, an option field, an entry in a list box, or a checkbox) is highlighted or indicated by a dotted box around the field or button name. This element is said to have the focus on it.

Shortcut Keys	Result
Enter	Activates selected button. In most cases where no button is selected, *Enter* is equivalent to clicking **OK**.
Esc	Closes dialog without saving any changes made while it was open. In most cases, *Esc* is equivalent to clicking Cancel. When an open drop-down list is selected, *Esc* closes the list.
Spacebar	Checks an empty checkbox. Clears a checked checkbox.
Up, down arrow keys	Moves focus up and down a list. Increases or decreases value of a variable. Moves focus vertically within a section of dialog.
Left, right arrow keys	Moves focus horizontally within a section of a dialog.
Tab	Advances focus to the next section or element of a dialog.
Shift+Tab	Returns focus to the previous section or element in a dialog.
Alt+Down Arrow	Shows items in a drop-down list.

Controlling macros

Shortcut Keys	Result
Ctrl+* (multiplication sign: on number pad only)	Runs a macro field. (See Chapter 9 for more about macros.)
Shift+Ctrl+Q	Stops a running macro.

Managing documents

Shortcut Keys	Result
Ctrl+F4 or *Alt+F4*	Closes the current document. Closes LibreOffice when the last open document is closed.
Ctrl+O	Launches the Open dialog to open a document.
Ctrl+S	Saves the current document. If you are working on a previously unsaved file, the shortcut launches the Save As dialog.
Ctrl+N	Creates a new document.
Shift+Ctrl+N	Opens the Templates and Documents dialog.
Ctrl+P	Opens the Print dialog to print the document.
Ctrl+Q	Closes the application.
Del	In the Save and Open dialogs, deletes the selected files or folders. Items can be retrieved from the Recycle Bin (Trash).
Shift+Del	In the Save and Open dialogs, deletes the selected files or folders. Items are permanently deleted: they can not be retrieved from the Recycle Bin, if your desktop has one.
Backspace	In the Save and Open dialogs, shows contents of the current directory's parent folder.

Editing

Shortcut Keys	Result
Ctrl+X	Cuts selected items.
Ctrl+C	Copies selected items to the clipboard.
Ctrl+V	Pastes copied or cut items from the clipboard.
Ctrl+Shift+V	Opens the Paste Special dialog.
Ctrl+A	Selects all.
Ctrl+Z	Undoes last action.
Ctrl+Y	Redoes last action.
Ctrl+Shift+Y	Repeats last command.

Shortcut Keys	Result
Ctrl+F	Opens the Find dialog
Ctrl+H	Opens the Find & Replace dialog.
Ctrl+Shift+F	Searches for the last entered search term.
Ctrl+Shift+R	Refreshes (redraws) the document view.
Ctrl+Shift+I	Shows or hides the cursor in read-only text.

Selecting rows and columns in a database table opened by F4

Shortcut keys	Result
Spacebar	Toggles row selection, except when the row is in edit mode.
Ctrl+Spacebar	Toggles row selection.
Shift+Spacebar	Selects the current column.
Ctrl+Page Up	Moves pointer to the first row.
Ctrl+Page Down	Moves pointer to the last row.

Shortcut keys for drawing objects

Shortcut keys	Result
Select the toolbar with *F6*. Use the *Down Arrow* and *Right Arrow* to select the desired toolbar icon and press *Ctrl+Enter*.	Inserts a Drawing Object.
Select the document with *Ctrl+F6* and press *Tab*.	Selects a Drawing Object.
Tab	Selects the next Drawing Object.
Shift+Tab	Selects the previous Drawing Object.
Ctrl+Home	Selects the first Drawing Object.
Ctrl+End	Selects the last Drawing Object.
Esc	Ends Drawing Object selection.
Esc (in Handle Selection Mode)	Exit Handle Selection Mode and return to Object Selection Mode.
Up/Down/Left/Right Arrow	Move the selected point (the snap-to-grid functions are temporarily disabled, but end points still snap to each other).

Shortcut keys	Result
Alt+Up/Down/Left/Right Arrow	Moves the selected Drawing Object one pixel (in Selection Mode).
	Re-sizes a Drawing Object (in Handle Selection Mode).
	Rotates a Drawing Object (in Rotation Mode).
	Opens the properties dialog for a Drawing Object.
	Activates the Point Selection mode for the selected drawing object.
Spacebar	Select a point of a drawing object (in Point Selection mode) / Cancel selection.
	The selected point blinks once per second.
Shift+Spacebar	Select an additional point in Point Selection mode.
Ctrl+Tab	Select the next point of the drawing object (Point Selection mode).
	In Rotation mode, the center of rotation can also be selected.
Ctrl+Shift+Tab	Select the previous point of the drawing object (Point Selection mode).
Ctrl+Enter	A new drawing object with default size is placed in the center of the current view.
Ctrl+Enter at the Selection icon	Activates the first drawing object in the document.
Esc	Leave the Point Selection mode. The drawing object is selected afterwards.
	Edit a point of a drawing object (Point Edit mode).
Any text or numerical key	If a drawing object is selected, switches to edit mode and places the cursor at the end of the text in the drawing object. A printable character is inserted.
Alt key while creating or scaling a graphic object	The position of the object's center is fixed.
Shift key while creating or scaling a graphic object	The ratio of the object's width to height is fixed.

Defining keyboard shortcuts

In addition to using the built-in keyboard shortcuts listed in this Appendix, you can define your own. See Chapter 14, Customizing LibreOffice, for instructions.

Further reading

For help with LibreOffice's keyboard shortcuts, or using LibreOffice with a keyboard only, search the application Help using the "shortcut keys" or "accessibility" keywords.

Appendix B
Open Source,
Open Standards,
OpenDocument

Introduction

LibreOffice is a productivity suite that is compatible with other major office suites and available on a variety of platforms. It is open source software and therefore free to download, use, and distribute. If you are new to LibreOffice, this appendix will provide some information regarding its history, its community, and some of its technical specifications.

A short history of LibreOffice

The OpenOffice.org project began when Sun Microsystems released the source code ("blueprints") for its StarOffice® software to the open source community on October 13, 2000. OpenOffice.org 1.0, the product, was released on April 30, 2002. Major updates to OpenOffice.org included version 2.0 in October 2005 and version 3.0 in October 2008. On January 26, 2010, Oracle Corporation acquired Sun Microsystems.

On September 28, 2010, the community of volunteers who develop and promote OpenOffice.org announce a major change in project structure. After ten years' successful growth with Sun Microsystems as founding and principle sponsor, the project launched an independent foundation called The Document Foundation, to fulfill the promise of independence written in the original charter. This foundation is the cornerstone of a new ecosystem where individuals and organizations can contribute to and benefit from the availability of a truly free office suite.

Unable to acquire the trademarked OpenOffice.org name from Oracle Corporation, The Document Foundation named its product LibreOffice. Continuing the version numbers from OpenOffice.org, LibreOffice 3.3 was released in January 2011. Version 5.0 was released in July 2015; version 5.1 was releases in February 2016.

In February 2012, The Document Foundation was incorporated in Berlin as a German Stiftung. You can read more about The Document Foundation at: http://www.documentfoundation.org/

The LibreOffice community

The Document Foundation's mission is:

> "...to facilitate the evolution of the OpenOffice.org Community into a new open, independent, and meritocratic organizational structure within the next few months. An independent Foundation is a better match to the values of our contributors, users, and supporters, and will enable a more effective, efficient, transparent, and inclusive Community. We will protect past investments by building on the solid achievements of our first decade, encourage wide participation in the Community, and co-ordinate activity across the Community."

Some of our corporate supporters include Canonical, The GNOME Foundation, Google, Novell and Red Hat. Additionally, over 450,000 people from nearly every part of the globe have joined this project with the idea of creating the best possible office suite that all can use. This is the essence of an "open source" community!

With its open source software license, LibreOffice is key in the drive to provide an office suite that is available to anyone, anywhere, for commercial or personal use. The software has been translated into many languages and runs on all major operating systems. New functionality can be added in the form of extensions.

The LibreOffice community invites contributors in all areas, including translators, software developers, graphic artists, technical writers, editors, donors and end-user support. Whatever you do best, you can make a difference in LibreOffice. The community operates internationally in all time zones and in many languages, linked through the internet at www.libreoffice.org and www.documentfoundation.org.

How is LibreOffice licensed?

LibreOffice is distributed under the Mozilla Public License (MPL) 2.0.
See https://www.libreoffice.org/about-us/licenses/

What is "open source"?

The four essential rights of open-source software are embodied within the Free Software Foundation's *General Public License* (GPL):

- The right to use the software for any purpose.
- Freedom to redistribute the software for free or for a fee.
- Access to the complete source code of the program (that is, the "blueprints").
- The right to modify any part of the source, or use portions of it in other programs.

The basic idea behind open source is very simple: When programmers can read, redistribute, and modify the source code for a piece of software, the software evolves. People improve it, people adapt it, people fix bugs.

For more information on Free and Open Source software, visit these websites:

Open Source Initiative (OSI): http://www.opensource.org

Free Software Foundation (FSF): http://www.gnu.org

What are "open standards"?

An open standard provides a means of doing something that is independent of manufacturer or vendor, thus enabling competing software programs to freely use the same file formats. HTML, XML, and ODF are examples of open standards for documents.

An open standard meets the following requirements:

- It is well documented with the complete specification publicly available, either free or at a nominal charge.
- It can be freely copied, distributed and used. The intellectual property of the standard is made irrevocably available on a royalty-free basis.
- It is standardized and maintained in an independent, open forum (also called "standards organization") using an open process.

What is OpenDocument?

OpenDocument (ODF) is an XML-based file format for office documents (text documents, spreadsheets, drawings, presentations and more), developed at OASIS (http://www.oasis-open.org/who/), an independent, international standards group.

Unlike other file formats, ODF is an open standard. It is publicly available, royalty-free, and without legal or other restrictions; therefore ODF files are not tied to a specific office suite and anybody can build a program that interprets these files. For this reason ODF is quickly becoming the preferred file format for government agencies, schools and other companies who prefer not to be too dependent on any one software supplier.

LibreOffice saves documents in OpenDocument Format by default. LibreOffice 3 adopted version 1.2 of the OpenDocument standard and LibreOffice 5 continues to use this standard. LibreOffice can also open and save many other file formats, as summarized below.

For a full list of file formats that LibreOffice can read and write, see
https://en.wikipedia.org/wiki/LibreOffice#Supported_file_formats

OpenDocument filename extensions

The most common filename extensions used for OpenDocument documents are:

> *.odt for word processing (text) documents
>
> *.ods for spreadsheets
>
> *.odp for presentations
>
> *.odb for databases
>
> *.odg for graphics (vector drawings)
>
> *.odf for formulas (mathematical equations)

File formats LibreOffice can open

LibreOffice can open a wide variety of file formats in addition to the OpenDocument formats, including Portable Document Format (PDF), if an ODF file is embedded in the PDF (see *Chapter 10 Printing, Exporting, and Emailing* for more information).

Opening text documents

In addition to OpenDocument formats (.odt, .ott, .oth, .odm, and .fodt), Writer can open the formats used by OpenOffice.org 1.x (.sxw, .stw, and .sxg), the following text document formats, and a variety of legacy formats not listed below:

> Microsoft Word 6.0/95/97/2000/XP/Mac) (.doc and .dot)
> Microsoft Word 2003 XML (.xml)
> Microsoft Word 2007/2010 XML (.docx, .docm, .dotx, .dotm)

Microsoft WinWord 5 (.doc)	WordPerfect Document (.wpd)
Microsoft Works (.wps)	Lotus WordPro (.lwp)
Abiword Document (.abw, .zabw)	ClarisWorks/Appleworks Document (.cwk)
MacWrite Document (.mw, .mcw)	Rich Text Format (.rtf)
Text CSV (.csv and .txt)	StarWriter formats (.sdw, .sgl, .vor)
DocBook (.xml)	Unified Office Format text (.uot, .uof)
Ichitaro 8/9/10/11 (.jtd and .jtt)	Hangul WP 97 (.hwp)
T602 Document (.602, .txt)	AportisDoc (Palm) (.pdb)
Pocket Word (.psw)	eBook (.pdb)
Apple Pages 4 (.pages)	HTML Document (.htm, .html)
... and many others	

Most of these file types are automatically detected by LibreOffice, so they can be opened without explicitly selecting the document type in the file picker.

When opening .htm or .html files (used for web pages), LibreOffice customizes Writer for working with these files.

Opening spreadsheets

In addition to OpenDocument formats (.ods, .ots, and .fods), Calc can open the formats used by OpenOffice.org 1.x (.sxc and .stc) and the following spreadsheet formats:

> Microsoft Excel 97/2000/XP (.xls, .xlw, and .xlt)
> Microsoft Excel 4.x–5.0/95 (.xls, .xlw, and .xlt)

Microsoft Excel 2003 XML (.xml)
Microsoft Excel 2007/2010 XML (.xlsx, .xlsm, .xlts, .xltm)
Microsoft Excel 2007/2010 binary (.xlsb)
Lotus 1-2-3 (.wk1, .wks, and .123)
Data Interchange Format (.dif)
Rich Text Format (.rtf)
Text CSV (.csv and .txt)
StarCalc formats (.sdc and .vor)
dBASE (.dbf)
SYLK (.slk)
Unified Office Format spreadsheet (.uos, .uof)
HTML Document (.htm and .html files, including Web page queries)
Pocket Excel (pxl)
Quattro Pro 6.0 (.wb2)
Apple Numbers 2 (.numbers)
... and many others

Opening presentations

In addition to OpenDocument formats (.odp, .odg, .otp, and .fopd), Impress can open the formats used by OpenOffice.org 1.x (.sxi and .sti) and the following presentation formats:

Microsoft PowerPoint 97/2000/XP (.ppt and .pot)
Microsoft PowerPoint 2007/2010 (.pptx, .pptm, .potx, .potm)
StarDraw and StarImpress (.sda, .sdd, .sdp, and .vor)
Unified Office Format presentation (.uop, .uof)
CGM – Computer Graphics Metafile (.cgm)
Portable Document Format (.pdf)
Apple Keynote 5 (.key)
... and many others

Opening graphic files

In addition to OpenDocument formats (.odg and .otg), Draw can open the formats used by OpenOffice.org 1.x (.sxd and .std) and the following graphic formats:

Adobe Photoshop (*.psd)
AutoCAD Interchange Format (*.dxf)
Corel Draw (*.cdr)
Corel Presentation Exchange (*.cmx)
Microsoft Publisher 98-2010 (*.pub)
Microsoft Visio 2000-2013 (*.vdx; *.vsd; *.vsdm; *.vsdx)
WordPerfect Graphics (*.wpg)

BMP	JPEG, JPG	PCX	PSD	SGV	WMF
DXF	MET	PGM	RAS	SVM	XBM
EMF	PBM	PLT	SDA	TGA	XPM
EPS	PCD	PNG	SDD	TIF, TIFF	
GIF	PCT	PPM	SGF	VOR	

Opening formula files

In addition to OpenDocument Formula (.odf) files, Math can open the format used by OpenOffice.org 1.x (.sxm), StarMath, (.smf), and MathML (.mml) files.

When opening a Word document that contains an embedded equation editor object, if the option for it (MathType to LibreOffice Math or reverse) is checked in **Tools > Options > Load/Save > Microsoft Office**, the object will be automatically converted to an LibreOffice Math object.

File formats LibreOffice can save to

Saving in an OpenDocument format guarantees the correct rendering of the file when it is transferred to another person or when the file is re-opened with a later version of LibreOffice or with another program. It is strongly recommended that you use OpenDocument as the default file formats. However, you can save files in other formats, if you wish.

> **Tip**
>
> When sharing a document that you do not expect or want the recipient to modify, the safest option is to convert the document to PDF. LibreOffice provides a very straightforward way to convert documents to PDF. See *Chapter 10 Printing, Exporting, and E-Mailing* in this guide.

Saving text documents

In addition to OpenDocument formats (.odt, .ott, and .fodt), Writer can save in these formats:

Microsoft Word 97–2003 (.doc)	Microsoft Word 2003 XML (.xml)
Microsoft Word 2007–2013 XML (.docx)	Office Open XML Text (.docx)
Rich Text Format (.rtf)	Text (.txt)
Text Encoded (.txt)	Unified Office Format text (.uot, .uof)
HTML Document (.html and .htm)	DocBook (.xml)

Encryption support within the Microsoft Word 97/2000/XP filter allows password protected Microsoft Word documents to be saved.

> **Note**
>
> The .rtf format is a common format for transferring text files between applications, but you are likely to experience loss of formatting and images. For this reason, other formats should be used.

Saving spreadsheet files

In addition to OpenDocument formats (.ods and .ots), Calc can save in these formats:

Microsoft Excel 97–2003 (.xls and .xlw)	Data Interchange Format (.dif)
Microsoft Excel 97–2003 Template (.xlt)	dBase (.dbf)
Microsoft Excel 2003 XML (.xml)	SYLK (.slk)
Microsoft Excel 2007–2013 XML (.xlsx)	Text CSV (.csv and .txt)
Office Open XML Spreadsheet (.xlsx)	Unified Office Format spreadsheet (.uos)
HTML Document (Calc) (.html and .htm)	

> **Note**
>
> The Java Runtime Environment is required to use the mobile device filters for AportisDoc (Palm), Pocket Word, and Pocket Excel.

Saving presentations

In addition to OpenDocument formats (.odp, .otp, .fodp, and .odg), Impress can save in these formats:

    Microsoft PowerPoint 97–2003 (.ppt)
    Microsoft PowerPoint 97–2003 Template (.pot)
    Microsoft PowerPoint 97–2003 AutoPlay (.pps)
    Microsoft PowerPoint 2007–2013 XML (.pptx, .potm)
    Microsoft PowerPoint 2007–2013 XML AutoPlay (.ppsx)
    Office Open XML Presentation (.pptx, .potm, .ppsx)
    Unified Office Format presentation (.uop)

Impress can also export to MacroMedia Flash (.swf) and any of the graphics formats listed for Draw.

Saving drawings

Draw can only save in the OpenDocument Drawing formats (.odg, .otg, and .fodg), the OpenOffice.org 1.x formats (.sxd and .std) and StarDraw format (.sda, .sdd, and .vor).

However, Draw can also export to BMP, EMF, EPS, GIF, JPEG, MET, PBM, PCT, PGM, PNG, PPM, RAS, SVG, SVM, TIFF, WMF, and XPM.

Writer/Web can save in these formats

    HTML document (.html and .htm), as HTML 4.0 Transitional
    Text and Text Encoded (LibreOffice Writer/Web) (.txt)

Exporting to other formats

LibreOffice uses the term "export" for some file operations involving a change of file type. If you cannot find the file type you are looking for under **Save As**, look under **Export** for additional types.

LibreOffice can export files to HTML and XHTML. In addition, Draw and Impress can export to Adobe Flash (.swf) and a range of image formats.

To export to one of these formats, choose **File > Export**. On the Export dialog, specify a file name for the exported document, then select the desired format in the *File format* list and click the **Export** button.

Index

This book has no index. We apologize, but no one has volunteered to update it. Our choices were to have no index, or an incomplete index, or to delay publication for so long that the book would be very out of date.

LibreOffice

5

LibreOffice Documentation Team

Getting Started

Introduction to LibreOffice

About this book:

If you have never used LibreOffice before, or you want an introduction to all of its compnents, this book is for you. Anyone who wants to get up to speed quickly with LibreOffice will find this book valuable. You may be new to office software, or you may be familiar with another office suite. This book introduces LibreOffice and its components:

- Writer (word processing)   - Calc (spreadsheet)   - Impress (presentations)
- Draw (vector graphics)   - Math (equation editor)   - Base (database)

It also covers features common to all components, including styles, templates, a gallery of graphics, macros, and printing.

About the authors:

This book was written by volunteers from the LibreOffice community. Profits from sales of the printed edition will be used to benefit the community.

A PDF version of this book can be downloaded free from
http://libreoffice.org/get-help/documentation/

About LibreOffice:

LibreOffice is the free, libre, and open source personal productivity suite from The Document Foundation. It runs on Windows, Macintosh, and GNU/Linux. Support and documentation is free from our large, dedicated community of users, contributors, and developers.

You too can get involved with volunteer work in many areas: development, quality assurance, documentation, translation, user support, and more.

You can download LibreOffice free from http//libreoffice.org/download/

Fantastic Community.
Fun Project.
Free Office Suite.