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Note

Everything you send to a mailing list, including your email address and any other personal information that is written in the message, is publicly archived and cannot be deleted.

Publication date and software version

Published June 2021. Based on LibreOffice 7.1 Community.
Other versions of LibreOffice may differ in appearance and functionality.

Documentation for LibreOffice is available at https://documentation.libreoffice.org/en/
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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 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 online Help system. This is your first line of support. Windows and Linux users can choose to download and install the offline Help for use when not connected to the Internet; the offline Help is installed with the program on macOS.

To display the Help system, press F1 or select Help > LibreOffice Help on the Menu bar. If you do not have the offline help installed on your computer and you are connected to the Internet, your default browser will open the online Help pages on the LibreOffice website.

The Help menu also includes links to other LibreOffice information and support facilities. The options marked by a ‡ sign in the list below are only accessible if your computer is connected to the Internet.

• What’s This? For quick tips when a toolbar is visible, 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. In addition, you can choose whether to activate Extended Tips using Tools > Options > LibreOffice > General.

• User Guides ‡ Opens your default browser at the Documentation page of the LibreOffice website, https://documentation.libreoffice.org/en/english-documentation/. There you will find copies of user guides and other useful information.

• Show Tip of the Day Opens a small window with a random tip on how to use LibreOffice.

• Get Help Online ‡ Opens your default browser at the Ask LibreOffice forum of questions and answers from the LibreOffice community, https://ask.libreoffice.org/en/questions/.
- **Send Feedback** ‡ Opens your default browser at the Feedback page of the LibreOffice website, [https://www.libreoffice.org/get-help/feedback/](https://www.libreoffice.org/get-help/feedback/). From there you can report bugs, suggest new features and communicate with others in the LibreOffice community.

- **Restart in Safe Mode** Opens a dialog where you can restart LibreOffice and reset the software to its default settings.

- **Get Involved** ‡ Opens your default browser at the Get Involved page of the LibreOffice website, [https://www.libreoffice.org/community/get-involved/](https://www.libreoffice.org/community/get-involved/). There you can choose a topic of interest to help improve the program.

- **Donate to LibreOffice** ‡ Opens your default browser at the Donation page of the LibreOffice website, [https://donate.libreoffice.org/](https://donate.libreoffice.org/). There you can choose to make a donation to support LibreOffice.

- **License Information** Outlines the licenses under which LibreOffice is made available.

- **Check for Updates** ‡ Opens a dialog and checks the LibreOffice website for updates to your version of the software.

- **About LibreOffice** Opens a dialog and displays information about the version of LibreOffice and the operating system you are using. This information will often be requested if you ask the community for help or assistance with the software. (On macOS, this item is under **LibreOffice** on the Menu bar.)

**Other free online support**
The LibreOffice community not only develops software, but provides free, volunteer-based support. In addition to the Help menu links above, there are other online community support options available, see the table below.

<table>
<thead>
<tr>
<th><strong>Free LibreOffice support</strong></th>
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<tr>
<td><strong>FAQs</strong></td>
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<td><strong>Mailing lists</strong></td>
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<tr>
<td><strong>Questions &amp; Answers and Knowledge Base</strong></td>
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</table>
| **Native language support** | The LibreOffice website in various languages [https://www.libreoffice.org/community/nlc/](https://www.libreoffice.org/community/nlc/)  
Mailing lists for native languages [https://wiki.documentfoundation.org/Local_Mailing_Lists](https://wiki.documentfoundation.org/Local_Mailing_Lists)  
Information about social networking [https://wiki.documentfoundation.org/Website/Web_Sites_services](https://wiki.documentfoundation.org/Website/Web_Sites_services) |
| **Accessibility options** | Information about available accessibility options [https://www.libreoffice.org/get-help/accessibility/](https://www.libreoffice.org/get-help/accessibility/) |

**Paid support and training**
You can also pay for support through service contracts from a vendor or consulting firm specializing in LibreOffice. For information about certified professional support, see The Document Foundation’s website: [https://www.documentfoundation.org/gethelp/support/](https://www.documentfoundation.org/gethelp/support/)

For schools, educational and research institutions, and large organizations, see [https://www.libreoffice.org/download/libreoffice-in-business/](https://www.libreoffice.org/download/libreoffice-in-business/).
Illustrations
LibreOffice runs on Windows, Linux, and macOS 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. In some cases (mainly Open, Save, and Print dialogs), you can choose to use dialogs from your computer’s operating system or from LibreOffice. To change which dialogs are used, go to **Tools > Options > LibreOffice > General** and select or deselect the option **Use LibreOffice dialogs**.

Icons
The LibreOffice community has created icons for several icon sets: Breeze, Colibre, Elementary, Karasa Jaga, Sifr, and Sakapura; some are also available in a dark version. As a user you can select your own preferred set. The icons in this guide have been taken from a variety of LibreOffice installations that use different sets of icons. The icons for some of the many tools available in LibreOffice may then differ from the ones used in this guide.

To change the icon set used, go to **Tools > Options > LibreOffice > View**. In the **Icon style** section, choose from the drop-down list.

Notes
Some Linux distributions include LibreOffice as part of the installation and may not include all the icon sets mentioned above. You should be able to download other icon sets from the software repository for your Linux distribution if you wish to use them.

The Galaxy, Oxygen, and Tango icon sets are no longer included as part of the standard installation package. You can download and install them as extensions from [https://extensions.libreoffice.org/en/extensions/](https://extensions.libreoffice.org/en/extensions/).

Some of the previously included gallery sets are now available only as extensions; see [https://extensions.libreoffice.org/?Tags%5B%5D=49](https://extensions.libreoffice.org/?Tags%5B%5D=49) or search for specific ones. For example, the People Gallery is available from [https://extensions.libreoffice.org/en/extensions/show/people-gallery](https://extensions.libreoffice.org/en/extensions/show/people-gallery).

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

<table>
<thead>
<tr>
<th><strong>Windows or Linux</strong></th>
<th><strong>macOS equivalent</strong></th>
<th><strong>Effect</strong></th>
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<tbody>
<tr>
<td><strong>Tools &gt; Options</strong> menu</td>
<td><strong>LibreOffice &gt; Preferences</strong></td>
<td>Access setup options</td>
</tr>
<tr>
<td>Right-click</td>
<td>Control+click and/or right-click depending on computer setup</td>
<td>Open a context menu</td>
</tr>
<tr>
<td><strong>Ctrl</strong> (Control)</td>
<td>⌘ (Command)</td>
<td>Used with other keys</td>
</tr>
<tr>
<td><strong>F11</strong></td>
<td>⌘+T</td>
<td>Open the sidebar Styles deck</td>
</tr>
</tbody>
</table>
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 to use to specify how to carry out an action. The technical names for common controls are shown in Figure 1. 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.

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 adjacent text box, 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 the document. An example of this type is the Find & Replace dialog.
Frequently asked questions

How is LibreOffice licensed?
LibreOffice is distributed under the Open Source Initiative (OSI) approved Mozilla Public License (MPL). See https://www.libreoffice.org/about-us/licenses/

It is based on code from Apache OpenOffice made available under the Apache License 2.0 but also includes software that differs from version to version under a variety of other Open Source licenses. New code is available under LGPL 3.0 and 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 for more than 80%, both UI and Help) into over 46 languages, so your language probably is supported. Localisation is well under way for another 30+ languages (50-80%) and for another 50+ languages help is more than welcome. In addition, over 70 spelling, hyphenation, and thesaurus dictionaries are 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 and/or LGPL. Read the licenses: https://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.

Java is available at no cost. More information and download links to the appropriate edition for your operating system can be found at: https://java.com/en/download/manual.jsp

Note
If you want to use LibreOffice features that require Java, it is important that the correct 32-bit or 64-bit edition matches the installed version of LibreOffice. See the Advanced Options in Chapter 2 of this guide. If you do not want to use Java, you can still use nearly all of the LibreOffice features.

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: https://www.libreoffice.org/community/get-involved/

May I distribute the PDF of this book, or print and sell copies?
Yes, as long as you meet the requirements of one of the licenses in the copyright statement at the beginning of this book. You do not have to request special permission. We request that you share with the project some of the profits you make from sales of books, in consideration of all the work we have put into producing them.

Donate to LibreOffice: https://www.libreoffice.org/donate/
Getting Started Guide

Chapter 1
Introducing LibreOffice
What is LibreOffice?

LibreOffice is a freely available, fully-featured, open source office productivity suite that is compatible with other major office suites and is available on a variety of platforms. Its native file format is Open Document Format (ODF), and it can also open and save documents in many other formats, including those used by several versions of Microsoft Office. For more information, see Appendix B, Open Source, Open Standards, OpenDocument.

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, Portable Document Format (PDF), and EPUB; and it can save files in many formats, including 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 500 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 can open, edit, and save Microsoft PowerPoint presentations and can also save your work in numerous graphics formats.

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 many formats, including PNG, GIF, JPEG, BMP, TIFF, SVG, HTML and PDF.

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 Firebird. It can also use PostgreSQL, dBASE, Microsoft Access, MySQL, 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 a 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, macOS, 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; it will open automatically in Draw.

- **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. See Appendix B for a list.

- **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 [https://www.libreoffice.org/](https://www.libreoffice.org/) and [https://www.documentfoundation.org/](https://www.documentfoundation.org/).
Minimum requirements

LibreOffice 7.1 requires one of the following operating systems:

- Microsoft Windows: Windows 7 SP1 or higher and Windows Server 2012; Administrator rights are needed for the installation process.

- GNU/Linux: Kernel version 3.10 or higher and glibc2 v2.17 or higher.

- macOS 10.10 (Yosemite) or higher; however, support for macOS 10.10 and 10.11 is deprecated.

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

Java is available at no cost. More information and download links to the appropriate edition for your operating system can be found at: https://java.com/en/download/manual.jsp

Note

If you want to use LibreOffice features that require Java, it is important that the correct 32-bit or 64-bit edition matches the installed version of LibreOffice. See the Advanced Options in Chapter 2, Setting up LibreOffice.

For a more detailed list of hardware and software requirements, see the LibreOffice website, https://www.libreoffice.org/get-help/system-requirements/.

How to get the software

Versions of LibreOffice Community for Windows, Linux, and macOS can be downloaded free from https://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. Portable and other versions of LibreOffice are listed on the download page.

Linux, Enterprise, Online, and other versions may differ in appearance and functionality from the descriptions in this book.

How to install the software

Information on installing LibreOffice on the various supported operating systems is given here: https://www.libreoffice.org/get-help/install-howto/. After installation, you can change the default settings (options) in LibreOffice to suit your preferences; see Chapter 2, Setting up LibreOffice.

Extensions and add-ons

You can add functionality to LibreOffice with extensions and add-ons. Several extensions are installed with the program and you can get others from the official extensions repository, https://extensions.libreoffice.org/ and from other sources. 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 Windows and Linux, entries for LibreOffice and each of its components appear in the system menu of your computer. On macOS, only an entry for LibreOffice is added to the Applications menu. You can make a desktop icon for LibreOffice or a component in the same way you can make a desktop icon for any other program; see your operating system’s help for how to do this.

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 open an existing file, use a template, or access Help and extensions. The thumbnails in the Start Center include an icon showing the type of file (text, spreadsheet, drawing, presentation).

![Figure 2: LibreOffice Start Center](image)

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 macOS Finder. The appropriate component of LibreOffice will start and the document will be loaded.

You can also open files stored in remote servers running Content Management Interoperability Services (CMIS). CMIS, like OpenDocument Format, is an OASIS standard. When using CMIS servers, the service will ask you for the necessary credentials for file access.

If you do not have Microsoft Office installed on your computer, or if Microsoft Office is installed but 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 26.

**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, Impress, Base, and Math for descriptions of those details.

Common features include the Title bar, Menu bar, Standard toolbar, and Formatting toolbar (Writer and Calc only) at the top of the window and the Status bar at the bottom.

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**Note**

By default, LibreOffice’s commands are grouped in menus and toolbars, as described in this section. You can choose other user interface variants, displaying contextual groups of commands and contents (View > User Interface) For more information, see Chapter 14, Customizing LibreOffice.

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**Title bar**

The Title bar is located at the top of the LibreOffice window. It shows the file name of the current document. When the document is not yet named, the document name will appear as Untitled X, where X is a number. Untitled documents are numbered in the order in which they are created.

**Menu bar**

The Menu bar is located just below the Title bar in Windows and Linux and at the top of the screen in macOS. When you select one of the menus, a submenu drops down to show further options, including:

- Commands that directly cause an action, such as Close or Save in the File menu.
- Commands that open dialogs. These are indicated by three dots following a command, such as Find and Replace... in the Edit menu.
- Commands that open further submenus. These are indicated by a right-pointing arrow following a command, such as Toolbars and Zoom, in the View menu. Moving the cursor onto one of these items causes its submenu to open.

As an example, the default Menu bar for Writer contains the following:

- **File** – commands that apply to the entire document such as Open, Save, and Print.
- **Edit** – commands for editing the document such as Undo, Find and Replace, Cut, Copy, Paste, and Track Changes.
- **View** – commands for controlling the display of the document such as User Interface, Toolbars, Text Boundaries, Rulers, and Zoom.
- **Insert** – commands for inserting elements into your document such as Image, Comment, Header, Footer, and Table of Contents and Index.
- **Format** – commands for formatting the layout of your document.
- **Styles** – commands for quickly applying common styles; for editing, loading, and creating styles; and for managing styles.
- **Table** – commands to insert and edit a table in a text document.
- **Form** – commands to create fill-in forms.
• **Tools** – functions such as **Spelling**, **AutoCorrect**, **Customize**, and **Options**.
• **Window** – commands for the display window.
• **Help** – links to the LibreOffice Help, 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 for Writer and Calc, in a default LibreOffice installation, is the Formatting toolbar. 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 toolbar provides tools for formatting graphics; when the cursor is in text, the tools are for formatting text.

In some cases it is convenient to reduce the number of toolbars displayed and get more space for the document. LibreOffice provides a single-toolbar alternative to the default double-toolbar setup. It contains the most-used commands. To activate it, enable **View > User Interface > Single Toolbar**.

**Displaying or hiding toolbars**

To display or hide toolbars in a standard setup, go to **View > Toolbars** on the Menu bar, then click on the name of a toolbar in the submenu. An active toolbar shows a checkmark 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** in 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 3 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 3: Example of tearing off a tool palette](image)
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 4.
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.

Floating toolbars
LibreOffice includes several additional toolbars, whose default settings have them 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, point to Visible Buttons (in the context menu). Visible icons on a toolbar are indicated by an outline around the icon (Figure 5) 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.
• 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. 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. 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. Context menus may display an applicable keyboard shortcut if one has been set; you can toggle this visibility off or on in Tools > Options > LibreOffice > View > Visibility.

Status bar

The Status bar is located at the bottom of the workspace. It provides information about the document and convenient ways to change some features quickly. 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.
Page number
  Shows the current page, sheet, or slide number and the total number of pages, sheets, or slides in the document. Click on this field to open the Go to Page dialog. Other uses of this field depend on the LibreOffice component.

Word & character count
  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. Clicking on this percentage figure opens the Zoom & View Layout dialog.
Sidebar

The Sidebar (Figure 8) is normally open by default on the right side of the workspace in Writer, Calc, Impress, and Draw. If necessary, select View > Sidebar on the Menu bar to display it. It contains one or more decks, based on the current document context. Decks are organized into panels. A tab bar on the right side of the sidebar allows you to switch between different decks.

All four components contain the Properties, Styles, Gallery, and Navigator decks. Some components have additional decks, such as Page and Style Inspector for Writer; Master Slides, Animation, and Slide Transition for Impress; Shapes for Draw; and Functions for Calc.

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 Properties panel. Some panels contain a More Options button, which opens a dialog with additional editing controls.

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 choices on the Sidebar Settings drop-down list at the top of the tab bar.

Figure 8: Properties panel of Sidebar in Writer
Starting new documents

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

- When LibreOffice is running 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.
- Use File > New on the Menu bar and select the type of document in the sub 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 in 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 was last opened.
- 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 in the context menu that opens.

**Note**

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

Opening existing documents

You can open an existing document in one of these ways:

- When no document is open, click Open File or Remote Files in the Start Center to reach the corresponding open dialog.
- Go to File > Open or File > Open Remote on the Menu bar to reach the corresponding 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, click Open Template to select a template, or click Open Remote File to open a remote file.
- When no document is open, 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.

**Note**

If a document is removed from its location it can be still visible in the Start Center. Selecting it gives an error message that the file does not exist.
When using the Open dialog, navigate to the folder you want, 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**

When opening files stored in a remote server, you may be asked to enter your user name and password to log in the server. See “Opening and saving files on remote servers” on page 30.

**Saving documents**

You can save documents as follows:

- **Save** – use if you are keeping the document, its current filename and location.
- **Save As** – use to create a new document, or change the filename and/or file format, or save the file in a different location on your computer.
- **Save Remote** – use if your document is already stored in a remote server or will be stored in a remote server.
- **Save a Copy** – use to save a copy of your current document and keep it open for more editing.
- **Save All** – use to save all the files open in your current session.

**Save command**

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

- Use the menu option **File > Save**.
- Use the keyboard shortcut **Ctrl+S**.
- Click the **Save** icon on the Standard toolbar.
- Use the menu option **File > Save All**.
- Use the menu option **File > Save Remote**.
- Use the menu option **File > Save a Copy** (similar to the Save As command).

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

**Save As command**

If you want to create a new document file, 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**.
- Use the menu option **File > Save As**.
When the Save As dialog or Save dialog opens, enter the file name, change the file type (if applicable; for example, to a Microsoft Office format), navigate to a new location (if applicable), and click Save.

**Using password protection and OpenPGP encryption**

LibreOffice provides two types of document protection: password protection and OpenPGP encryption. Files encrypted with the Save password cannot be decrypted without the password, which must be sent to each user who needs to decrypt the document. With OpenPGP encryption, the document is encrypted using an algorithm, which requires a key. Each key is used only once and is sent to the recipient along with the document.

**Password protection**

LibreOffice provides two levels of password protection: read-protect (file cannot be viewed without a password) and write-protect (file can be viewed in read-only mode but cannot be changed without a password). Thus you can make the content available for reading by one group of people and for reading and editing by a different group. This behavior is compatible with Microsoft Word file protection. The two levels can also be combined.

To protect a document with passwords:

1) Using the Save As command, select the **Save with password** option in the lower left of the Save As dialog or Save dialog (Figure 9).
2) Click **Save** and the Set Password dialog opens (Figure 10).
3) In the **File Encryption Password** section, 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 the **File Sharing Password** section, 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 either pair of passwords do not match, you receive an error message.

**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.
OpenPGP encryption

LibreOffice uses the OpenPGP software installed on your computer. If no OpenPGP software is available, you must download and install one suitable for your operating system before you can use this option.

You must define a personal pair of cryptography keys with the OpenPGP application. Refer to the OpenPGP software installed on how to create a pair of keys. For more information on using this form of encryption, see the supplied Help.

OpenPGP encryption requires the use of the public key of the recipient; this key must be available in the OpenPGP key chain stored in your computer. To encrypt a document:

1) Choose File > Save As,
2) In the Save As dialog, enter a name for the file.
3) Select the Encrypt with GPG key option (see Figure 9).
4) Click Save. The OpenPGP public key selection dialog opens.
5) Choose the public key of the recipient. You can select multiple keys.
6) Click OK to close the dialog and save the file encrypted with the selected public keys.

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.
Opening and saving files on remote servers

LibreOffice can open and save files stored on remote servers. Keeping files on remote servers allows you to work with the documents using different computers. For example, you can work on a document in the office during the day and edit it at home for last-minute changes. Storing files on a remote server also backs up documents from computer loss or hard disk failure. Some servers are also able to check-in and check-out files, thus controlling their usage and access.

LibreOffice supports many document servers that use well known network protocols such as FTP, WebDav, Windows share, and SSH. It also supports popular services like Google Drive and Microsoft OneNote, as well as commercial and open source servers that implement the OASIS CMIS standard.

To enable a remote server connection, use one of these methods:

- Click on the **Remote Files** button in the Start Center.
- Select **File > Open Remote** in any open document.
- Select **File > Save Remote** in any open document.

On the Remote Files dialog (Figure 11), click **Manage Services / Add Service** button in the upper right to open the File Services dialog (Figure 12). Depending on the type of file service you choose in the Type listbox, different parameters are necessary to fully qualify the connection to the remote server.

![Remote Files dialog when connected to a server](image)
Once the connection is defined, click **OK** to connect. The dialog will dim until the connection is established with the server. A dialog asking for the user name and the password may pop up to let you log in the server. Proceed entering your credentials.

The Remote Files dialog (Figure 11) which then appears has many parts. The upper list box contains the list of remote servers you have previously defined. The line below the list box shows the path to access the folder. On the left is the folder structure of the user space in the server. The main pane displays the files in the remote folder. Click the **Open** or **Save** button to proceed.

### Using the Navigator

The Navigator lists objects contained in a document, collected into categories. For example, in Writer it shows Headings, Tables, Frames, Comments, Images, Bookmarks, and other items, as shown in Figure 13. In Calc it shows Sheets, Range names, Database ranges, Images, Drawing objects, and other items. In Impress and Draw it shows Slides, Pages, and other items.

In a default installation of LibreOffice, the Navigator is a Sidebar deck. If necessary, press the **F5** key, or go to **View > Navigator** on the Menu bar, or click the **Navigator** icon on the Sidebar, to open it.

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 such as Sheet1, Table1, or Table2. The default names may not correspond to the actual position of the object in the document.
- Navigator also provides the facility to move, promote, demote items within a 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.
Undoing and redoing changes

To undo the most recent unsaved change in a document, use the keyboard shortcut \texttt{Ctrl+Z}, or click the \textbf{Undo} icon on the Standard toolbar, or go to \textbf{Edit > Undo} on the Menu bar. Click the small triangle to the right of the \textbf{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 \texttt{Ctrl+Y}, or click the \textbf{Redo} icon, or go to \textbf{Edit > Redo} on the Menu bar. As with Undo, click on the triangle to the right of the \textbf{Redo} icon to get a list of the changes that can be reapplied.

To repeat the last command applied to your document, use the shortcut \texttt{Ctrl+Shift+Y}. This can save several repetitive menu navigation clicks or keyboard shortcuts, especially when the command is taken from a secondary menu.

Reloading a document

Reloading is useful in two situations.

- You may want to discard all the changes made in an editing session after the last document save.
- You may have made some formatting changes that do not show until the document has been closed and reopened; reloading has the same result.

To reload a document, go to \textbf{File > Reload} on the Menu bar. If you have made changes to a file since the last save, a confirmation dialog will warn you that reloading will discard your last changes. Choose whether to save or discard the changes.

On reloading the document, the File dialog does not open, because the file is already selected.

Using document properties

To open the Properties dialog for a document, go to \textbf{File > Properties} on the Menu bar. The Properties dialog provides information about the document and allows you to set some of its properties. The dialog and its tabs are described below.
General
Contains basic information about the current file: file name and type; storage location; file size; date, time, and author of file creation and last modification; template used to create the file; date, time, and author of digital signature; date, time, and user name when the file was last printed; total editing time; and revision number.

Controls available:

• **Change Password** – opens a dialog to change the password. It is only active if a password has been set for the file.

• **Digital Signatures** – opens the Digital Signatures dialog where you can manage digital signatures for the current document.

• **Apply user data** – saves the full name of the user with the file. You can edit the name by going to **Tools > Options > LibreOffice > User Data** on the Menu bar.

• **Save preview image with this document** – saves a thumbnail.png inside the document. These images may be used by a file manager under certain conditions.

• **Reset Properties** – resets the editing time to zero, the creation date to the current date and time, and the version number to 1. The modification and printing dates are also deleted.

Description
Contains optional editable descriptive information about the document, which may be exported as metadata to other file formats.

• **Title** – enter a title for the document.

• **Subject** – enter a subject for the document. You can use a subject to group documents with similar contents.

• **Keywords** – enter the words that you want to use to index the content of the document. Keywords must be separated by commas. A keyword can contain white space characters or semicolons.

• **Comments** – enter comments to help identify the document.

Custom Properties
Use this page to assign custom information fields to the document. In a new document, this page may be blank. If the new document is based on a template, this page may contain fields. You can change the name, type, and contents of each row. The information in the fields will be exported as metadata to other file formats.

Click **Add Property** to add a new custom property. Click **Reset** to delete all custom properties.

CMIS Properties
Used for documents stored on remote servers; not shown otherwise. See the Help for more information.

Security
Enables two password-protected security options.

• **Open file read-only** – select to allow this document to be opened only in read-only mode. This file sharing option protects the document against accidental changes. It is still possible to edit a copy of the document and save that copy with the same name as the original.
• **Record changes** – select to require that all changes be recorded. To protect the recording state with a password, click **Protect** and enter a password. This is similar to **Edit > Track Changes > Record** on the Menu bar. However, while other users of this document can apply their changes, they cannot disable change recording without knowing the password.

**Protect** or **Unprotect** button protects the change recording state with a password. If change recording is protected for the current document, the button is named **Unprotect**. Click **Unprotect** and type the correct password to disable the protection.

**Font**

When **Embed fonts in the document** is selected, any fonts used in the document will be embedded into the document when it is saved. This may be useful if you are creating a PDF and want to control how it will look on other computer systems.

**Only embed fonts that are used in documents** – If fonts have been defined for the document (for example, in the template), but have not been used, select this option to not embed them.

**Font scripts to embed** – You can choose which types of fonts are embedded: Latin, Asian, Complex.

**Statistics**

Displays statistics for the current file, such as the number of pages, words, and characters.

**Classifying document contents**

Document classification and security are important for businesses and governments. Where sensitive information is exchanged between users and organizations, the parties agree how such information will be identified and handled. LibreOffice provides standardized means for sensitive information to be identified and protected, using a set of standard fields that can be used to hold sensitive information.


To enable document classification, open the TSCP bar (**View > Toolbars > TSCP Classification**). This toolbar contains list boxes to help in selecting the security of the document. LibreOffice then adds custom fields in the document properties (**File > Properties, Custom Properties** tab) to store the classification policy as document metadata.

To prevent a breach in security policy, contents with a higher classification level cannot be pasted into documents with a lower classification level.

**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 macOS, 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 right or left end of the title bar of that document’s window.
If the document has not been saved since the last change, a message box is displayed. Choose whether to save or discard your changes.

## Closing LibreOffice

To close LibreOffice completely, go to **File > Exit LibreOffice** on the Menu bar in Windows and Linux. In macOS, go to **LibreOffice > Quit LibreOffice** on the Menu bar.

In Windows and Linux, when you close the last document using the X on the title bar of the window, then LibreOffice will close completely. In macOS, you need to use **LibreOffice > Quit LibreOffice**.

You can also use a keyboard shortcut as follows:

- In Windows and Linux – **Ctrl+Q**
- In macOS – **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.

## Problem solving using Safe Mode

You can use Safe Mode to help restore an instance of LibreOffice that has become corrupted and stopped working or fails to launch.

To access Safe Mode, do one of the following:

- Choose **Help > Restart in Safe Mode** on the Menu bar.
- Start LibreOffice from the command line with the **--safe-mode** option.
- In Windows only, choose **LibreOffice (Safe Mode)** from the Start Menu.

The following Safe Mode options get more extreme from the top down, so it is recommended that you try them successively.

- **Restore from backup** – LibreOffice keeps backups of previous configurations and activated extensions. Use this option to restore the user configuration, installed extensions, or both, to a previous known working state if you suspect that your problems were caused by recent changes to either.

- **Configure** – Use this option to disable all user extensions, hardware acceleration, or both. This is a good choice if you are experiencing crashes on startup or visual glitches that are often related to hardware acceleration.

- **Extensions** – If you suspect that a corrupted extension is blocking or causing LibreOffice to crash, you can use this option to uninstall all user extensions and reset the state of any shared or bundled extensions. In the case of shared or bundled extensions, the option will only work if you have the proper system access rights. It should be exercised with caution.

- **Reset to factory settings** – If all of the above fails, you can reset your settings and your user interface modifications, or your entire profile back to factory defaults.

- **Reset settings and user interface modifications** – this will reset your User Interface and configuration changes, but keep things like your personal dictionary, templates, etc.

- **Reset entire user profile** – this will erase all customized options and return your user profile to the factory default state.
Continue in Safe Mode – Continuing in Safe Mode will allow you to work in LibreOffice, using a temporary profile that was created on startup. Any extensions or configuration options you had set up previously will have to be reconfigured in order to be used, bearing in mind that any changes made to the temporary user profile will be lost after any restart.

Restart in Normal Mode – If you arrived in Safe Mode accidentally, this option will discard any changes, terminate Safe Mode, and restart LibreOffice normally.

Apply Changes and Restart – Choose this option to apply any of the above changes and restart LibreOffice.

Note
If you are unable to solve your problem using Safe Mode, the Advanced tab provides instructions on receiving further aid.
In the Advanced tab you can also create a .zip file of your corrupted user profile which can then be uploaded to the bug tracking system where it can be further investigated by the developers.
However, be aware that your uploaded user profile may contain sensitive information such as installed extensions, personal dictionaries, and settings.
Chapter 2
Setting up LibreOffice

Choosing options to suit the way you work
Introduction

This chapter briefly describes some of the setup options found under **Tools > Options** on the Menu bar (**LibreOffice > Preferences** on macOS). Additional options, and more details about the ones given here, are covered in the Help.

Tip

Many options are intended for power users and programmers. If you do not understand what an option does, it is usually best to leave it on the default setting unless instructions in this book recommend changing the setting.

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** (**LibreOffice > Preferences** on macOS). 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. If you are using a version of LibreOffice other than US English, some field labels may be different from those shown in the illustrations.

Click the expansion symbol (+ or triangle) next to **LibreOffice**. Select an item in the drop-down list to display the relevant page on the right-hand side of the dialog.

![Figure 15: LibreOffice options](image)

Note

The **Reset** button, located in the lower right of the Options dialog, resets the values on that page to the values that were in place when you opened the dialog. It may be called **Revert** on some installations.
User data

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), the name of the author of comments and changes, and the sender address in mailing lists, you will want to ensure that the correct information appears here.

Fill in the form, or amend or delete any existing information. If you do not want user data to be part of the document’s properties, deselect Use data for document properties.

![User Data page](image)

Figure 16: User Data page

In the Cryptography section, you can set the preferred public key for OpenPGP encryption and digital signature. These preferred keys will be pre-selected in the key selection dialog when you sign or encrypt a document (see Chapter 10, Printing, Exporting, Emailing, and Signing Documents).

General

The options on the LibreOffice – General page (Figure 17) are described below.

**Help**

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

- **Show “No offline help installed” popup**
  Deselect to disable this popup dialog when you select Help, if offline help is not installed.

- **Show “Tip of the Day” dialog on start-up**
  Deselect to disable the “Tip of the Day” dialog. You can also disable this from the dialog.

**Open/Save Dialogs – Use LibreOffice dialogs**

Select this option to use the Open and Save dialogs supplied with LibreOffice. Deselect to use the standard Open and Save dialogs of your operating system. This guide 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.
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.

Help Improve LibreOffice
Collect usage data and send it to The Document Foundation
Send usage data to help The Document Foundation improve usability of the software. The usage data is sent anonymously and carries no document contents, only the commands used.

Send crash reports to The Document Foundation
(Windows only.) If this option is selected, the Error Report Tool starts automatically when a program crash occurs. The tool gathers all necessary information that can help the program developers to improve the code. You can include some additional information that may help the developers to localize the error. For more information, see the Help.

LibreOffice Quickstarter – Load LibreOffice during system start-up
When this option is selected, the necessary library files are loaded when the computer is started, resulting in a shorter startup time for LibreOffice components. The old menu in the system tray is no longer used. Not available on macOS.

LibreOffice File Associations – Windows Default apps button
(Windows only.) Behavior varies: opens Default apps dialog on Windows 7, 8, 8.1; displays a message on Windows 10 telling the user how to open Default apps manually.
View

The options on the *LibreOffice – View* page affect how the document window looks and behaves. Some of these options are described below Figure 18. Set them to suit your personal preferences. Some of the available options vary with your computer’s operating system; the figure shows the options on Windows 10.

![Figure 18: Choosing View options for LibreOffice applications](image)

**Icon Style**

Choose the icon style used in toolbars and dialogs. The Automatic option uses an icon set compatible with your operating system and choice of desktop. Several icon sets are available: Breeze, Breeze Dark, Colibre, Elementary, Karasa Jaga, Sifr, Sifr Dark, and Sakapura. You can add other icon sets using extensions; see Chapter 14, Customizing LibreOffice. Click the **Extensions** icon to display relevant extensions.

**Icon size – Toolbar, Notebookbar, Sidebar**

Choose the display size of toolbar icons (Automatic, Small, Large, Extra Large (only for toolbar)). The Automatic icon size option uses the setting for your operating system. The toolbars, sidebar, and notebookbar (tabbed, grouped, and contextual versions) can have different settings.

**Visibility – Menu icons, Shortcuts**

You can choose to hide or show icons as well as text on Menu bar and context menu items.

**Mouse – Positioning**

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

**Mouse – Middle button**

Defines the function of the middle mouse button (if present).

- 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**. Clipboard and Selection clipboard can contain different contents at the same time.
### Function

<table>
<thead>
<tr>
<th>Function</th>
<th>Clipboard</th>
<th>Selection clipboard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copy content</td>
<td><strong>Edit &gt; Copy</strong> <em>Ctrl+C</em></td>
<td>Select text, table, or object.</td>
</tr>
<tr>
<td>Paste content</td>
<td><strong>Edit &gt; Paste</strong> <em>Ctrl+V</em> pastes at the cursor position.</td>
<td>Clicking the middle mouse button pastes at the mouse pointer position.</td>
</tr>
<tr>
<td>Pasting into another document</td>
<td>No effect on the clipboard contents.</td>
<td>The last marked selection is the content of the Selection clipboard.</td>
</tr>
</tbody>
</table>

### 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.

#### **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.

#### **Use Skia for all rendering**

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

#### **Force Skia software rendering**

Forces the use of Skia even if the graphics device is blacklisted. A device is blacklisted when it is buggy or may render graphics with poor quality. Not supported on all operating systems and LibreOffice distributions.

### Font Lists

#### **Show preview of fonts**

Causes the font list to look like Figure 19, Left, with the font names shown as an example of the font; with the option deselected, the font list shows only the font names (Figure 19, Right). The fonts listed are those that are installed on your system. Some fonts show an additional preview of some sample text.

#### **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 19: Font list (Left) with preview; (Right) without preview*
Print

On the LibreOffice – Print page (Figure 20), you can set the print options to suit your default printer and your most common printing method. Most of these options should be self-explanatory.

---

In the Warnings section, 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, a likely cause is page size incompatibility.

Note

Linux installations have an extra option (not shown in Figure 20): PDF as Standard Print Job Format. 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 [https://www.linuxfoundation.org/collaborate/workgroups/openprinting/pdf_as_standard_print_job_format](https://www.linuxfoundation.org/collaborate/workgroups/openprinting/pdf_as_standard_print_job_format)

Deselecting this option reverts to a Postscript document workflow.

Paths

On the LibreOffice – Paths page, you can change the location of files associated with, or used by, LibreOffice to suit your working situation. 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 21 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.
Some items can have at least two paths listed: the User Path is to a user-specific folder (normally on the user’s personal computer) and the Internal Path is to a shared folder where LibreOffice is installed (which might be on a network).

**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.

![Fig 21: Viewing the paths of files used by LibreOffice](image)

**Fonts**
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, Using Styles and Templates.

On the *LibreOffice – Fonts* page (Figure 22):

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.
4) Click on the tick (check) icon to the right of the Replace with box. 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 1.

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).

![Replacement Table](image)

<table>
<thead>
<tr>
<th>Always</th>
<th>Screen only</th>
<th>Font</th>
<th>Replace with</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔️</td>
<td></td>
<td>Comic Sans MS</td>
<td>Liberation Sans</td>
</tr>
</tbody>
</table>

![Font Settings for HTML, Basic and SQL Sources](image)

Figure 22: Defining a font to be substituted for another font

Table 1. Font substitution replacement actions

<table>
<thead>
<tr>
<th>Always checkbox</th>
<th>Screen only checkbox</th>
<th>Replacement action</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔️</td>
<td>blank</td>
<td>Font replaced on screen and when printing, whether the font is installed or not.</td>
</tr>
<tr>
<td>✔️</td>
<td>✔️</td>
<td>Font replaced only on screen, whether the font is installed or not.</td>
</tr>
<tr>
<td>blank</td>
<td>✔️</td>
<td>Font replaced only on screen, but only if font is not available.</td>
</tr>
<tr>
<td>blank</td>
<td>blank</td>
<td>Font replaced on screen and when printing, but only if font is not available.</td>
</tr>
</tbody>
</table>

Security

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

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 24). See “Security options and warnings” on page 47.

![Security Options and Warnings](image)

**Figure 23: Choosing security options for opening and saving documents**

**Passwords for Web Connections**
You can enter a master password to enable easy access to websites that require a user name and password. 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.

**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 macro developers.

**Certificate Path** (Not available on Windows)
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. Not available on Windows; LibreOffice uses the default Windows location for storing and retrieving certificates.

**TSAs –Time Stamping Authorities**
You can optionally select a Time Stamping Authority (TSA) URL for PDF documents created by LibreOffice. Recipients of PDF documents with a trusted timestamp can verify when the document was digitally or electronically signed, as well as verify that the document was not altered after the date the timestamp vouches for.
Security options and warnings
Most of the options on the Security Options and Warnings dialog (Figure 24) should be self-explanatory.

![Security Options and Warnings dialog](image)

Figure 24: 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 save personal information with documents and still be able to manually remove personal information from specific documents, deselect this option.

Ctrl+click required to open hyperlinks
The default behavior to open a hyperlink in LibreOffice is to Ctrl+click on the hyperlink. 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.

Personalization
You can customize the overall appearance of LibreOffice with themes.

On the LibreOffice – Personalization page, select **Preinstalled Theme** and then click on a theme thumbnail and click **Apply**. After a brief pause the appearance of LibreOffice will refresh and reflect the selected theme.

![LibreOffice Themes](image)

Figure 25: Selecting a preinstalled theme
**Application colors**

Writing, editing, and 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 – Application Colors* page (Figure 26), 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 by selecting other available palettes from the drop-down list.
- To save your color changes as a color scheme, click *Save*, type a name in the *Name of color scheme* box in the popup dialog (not shown), and then click *OK.*

**Note**

To change the color settings used in Track Changes mode, go to **Tools > Options > LibreOffice Writer > Changes.**

![Figure 26: Showing or hiding text, object, and table boundaries](image)

**Accessibility**

Accessibility options include whether to allow animated graphics or text, some options for high contrast display, and a way to change the font for the LibreOffice user interface.

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 on the *LibreOffice – Accessibility* page (Figure 27) as required.

**Figure 27: Choosing accessibility options**

### Advanced

LibreOffice needs Java to run several wizards, the Mediawiki Publisher (if available; see “Choosing Internet options” on page 60), and some functions in the Base component.

### 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.

If LibreOffice finds one or more JREs on your computer, it will display them in the large box. You can then choose one of the JREs listed.

If you are a system administrator, programmer, or other person who customizes JRE installations, you can use the Parameters and Class Path dialogs (reached using the buttons on the right) to specify this information.

**Figure 28: Choosing a Java runtime environment**

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Optional Features

Enable experimental features (may be unstable)
Select this option to enable features that are not yet complete or contain known bugs. The list of these features is different version by version.

Enable macro recording (may be 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, are 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.

Open Expert Configuration
Most users will have no need to use this. Click this button to open a new dialog in which you can fine-tune the LibreOffice installation. The dialog 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.

Caution
The Expert Configuration dialog lets you access, edit, and save configuration preferences that can turn the user profile of LibreOffice unstable, inconsistent, or even unusable. If you do not know what an option does, you can best leave it as the default.

Online update
On the LibreOffice – Online Update page (Figure 29), 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 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.

If the Send OS version and basic hardware information option is selected, information about the computer architecture and operating system will be sent to the server for statistics collection.

---

**Online Update Options**
- Check for updates automatically
  - Every day
  - Every week
  - Every month

Last checked: 05/06/21, 01:45:00 PM

**Download Destination**
- Download updates automatically
  - Download destination: C:\Users\Jean\Downloads

**User Agent**
- Send OS version and basic hardware information
  - User Agent: LibreOffice 7.1.2.2

Figure 29: Online update options
OpenCL

OpenCL (Open Computing Language) is a software architecture used to write programs that run in different processors of the computer, such as the CPU and GPU (graphics processing unit) of the video card. With OpenCL enabled, LibreOffice can benefit from the very fast numerical calculations performed in the GPU, which is especially useful in very large spreadsheets with extensive calculations. The computer’s video card driver must have support for OpenCL to use this feature.

Choosing options for loading and saving documents

You can set the 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 (Figure 30) are familiar to users of other office suites. Some items of interest are described below.

![Figure 30: Choosing Load and Save options](image)

**Load user-specific settings with the document**

A LibreOffice document contains 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 in **File > Print > Options**.
- Spacing options for paragraphs before text tables.
- Information about automatic updating for links, field functions, and charts.
- Information about working with Asian character formats.
- 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 with the document 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 default 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.

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 previously-saved version of a document as a backup copy in a separate folder whenever you save a document. When LibreOffice creates a new 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.

To see or change the backup folder, go to Tools > Options > LibreOffice > Paths. When opening a backup file, you will be prompted to specify the program to open it with; choose LibreOffice.

Save URLs relative to file system / internet
Use these options 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.

<table>
<thead>
<tr>
<th>Examples</th>
<th>File system</th>
<th>Internet</th>
</tr>
</thead>
<tbody>
<tr>
<td>relative</td>
<td>../images/img.jpg</td>
<td>../images/img.jpg</td>
</tr>
<tr>
<td>absolute</td>
<td>file:///c</td>
<td>/work/images/img.jpg</td>
</tr>
</tbody>
</table>

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 1.3 Extended. While this allows for improved functionality, there may be backwards compatibility issues. When a file saved in ODF 1.3 Extended is opened in an editor that uses an earlier version of ODF, some of the advanced features may be lost. If you plan to share documents with people who use editors that use older versions of ODF (such as Apache OpenOffice or LibreOffice 3.x), you may wish to save the document using ODF 1.2 Extended (compatibility mode).

**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 the Microsoft Office formats. Current versions of Microsoft Word can open ODT files, so this may no longer be needed.

VBA properties

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

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 Basic IDE you will notice that it is all commented), with this option the code is ready to be executed.

![Figure 31: Choosing Load/Save VBA Properties](image)

**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 (Figure 32), 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).

The Embedded Objects section specifies how to import and export Microsoft Office OLE objects. These settings are valid when no Microsoft OLE server exists (for example, in UNIX) or when there is no LibreOffice OLE server ready for editing the OLE objects. If an OLE server is active for the embedded object, then the OLE server will be used to handle the object.

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”). Linux installations may include selectable [S] options not shown in the illustration for the last three items.

![Embedded Objects](image)

**Figure 32: Choosing Load/Save Microsoft Office options**

**Character Highlighting – Export as**

Microsoft Office has two character attributes similar to LibreOffice character background. Select the appropriate attribute (Highlighting or Shading) to use during export to Microsoft Office file formats.

**Lock files – Create MSO lock file**

LibreOffice can report which Microsoft Office user has locked a document by reading the lock files generated by MSO; and when the Create MSO lock file option is selected, LibreOffice will generate such files in addition to its own lock files, so MSO users can know who has locked a document.
HTML compatibility

Choices made on the Load/Save – HTML Compatibility page (Figure 33) affect HTML pages imported into LibreOffice and those exported from LibreOffice. See HTML documents; importing/exporting in the Help for more information.

![Figure 33: Choosing HTML compatibility options](image)

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 “Change some locale and language settings” on page 56). 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 – 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 images 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 many language modules with the program. A language module can contain up to three submodules: spelling dictionary, hyphenation dictionary, and thesaurus. These are usually referred to as “dictionaries” in LibreOffice. To add other language modules, be sure you are connected to the Internet, and then choose **Tools > Language Settings > Writing Aids** and click the **Get more dictionaries online** link (Figure 36). LibreOffice will open a window containing links to additional dictionaries. 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 the expansion symbol (+ or triangle) by **Language Settings**. The exact list shown depends on the language support settings (see Figure 35).

![Figure 34: LibreOffice language options, without and with Asian and CTL options enabled](image)

On the right-hand side of the Language Settings – Languages page (Figure 35), 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 35: 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 locale 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.

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.

Decimal separator key
If the Decimal separator key – Same as locale setting option is selected, LibreOffice uses the character defined by the default locale. If this option is not selected, the keyboard driver defines the character used.

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 locale 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**.

Select **Asian** to enable support for Asian languages (Chinese, Japanese, Korean). Select **Complex Text Layout** to enable support for languages such as Urdu, Thai, Hebrew, and Arabic. If you select either of these options, you will see some extra choices under Language Settings the next time you open this dialog, as shown in Figure 34. These choices (Searching in Japanese, Asian Layout, and Complex Text Layout) are not discussed here.

**Note**
An ABC icon in front of a language indicates that a spelling dictionary, thesaurus, and hyphenation dictionary are activated for this language.

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**.

For details on using the **Available Language Modules** and **User-defined Dictionaries** sections, please see the Help.

In the **Options** section of the page (Figure 36), choose the settings that are useful for you.

---

**Figure 36: Choosing languages, dictionaries, and options for checking spelling**
Some considerations:

• If you want spelling checked while you type, you must have **Check spelling as you type** enabled.

• If you want grammar to be checked as you type, you must have both **Check grammar as you type** and **Check spelling as you type** enabled.

• If you use a custom dictionary that includes words in all uppercase and words with numbers (for example, AS/400), select **Check uppercase words** and **Check words with numbers**.

• **Check special regions** means that text in headers, footers, frames, and tables are also checked when checking spelling.

Here you can also select 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 (Figure 37), you can choose which items are checked for, reported to you, or converted automatically.

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

![Figure 37: Choosing options for checking sentences in English](image)

**Grammar checking**

**Possible mistakes**
Checks for things such as subject-verb conflict, mood, tense; “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.

**Quotation marks**
Checks for correct typographical double quotation marks.

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

**Apostrophe**
Replaces an apostrophe with the correct typographical character.

**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.

**Multiplication sign**
This option is selected by default. It replaces an ‘x’ used as a multiplication symbol with the correct typographical symbol.

**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, depending on the locale setting for the document. One uses the comma as a thousands separator; the other is ISO format, which uses a narrow space as a separator.

**Sentence checking in other languages**
LibreOffice can check sentences in many languages. These checkers are enabled by default if the language is the computer’s default language, and others can be added using the Extension Manager. The set of rules available for these sentence checkers depend on the language.

**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.

If you are using Linux or macOS, an additional page of Email options is available (Figure 38), where you can specify the program to use when you send the current document as email. Under Windows, your default email program is always used.

To suppress (exclude) hidden elements such as tracked changes, hidden sections, hidden tabs in a spreadsheet, or hidden layers in a drawing, select the **Suppress hidden elements of documents** option.
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 a dialog where you can specify the address (URL) and login information for a wiki. You can add several wikis to the list. A JRE (Java Runtime Environment) is needed for this feature to work.

**Controlling LibreOffice’s AutoCorrect functions**

LibreOffice’s AutoCorrect functions automatically detect and replace common symbols, spelling mistakes, and grammar mistakes. Sometimes, AutoCorrect changes something that should have been kept. If unexplained changes appear in your document, the AutoCorrect settings are often the cause.

Click Tools > AutoCorrect > AutoCorrect Options to customize AutoCorrect. You must have a document open for this menu item to appear. Use the tabs to add, edit, and delete AutoCorrect options. In Writer, this dialog has five tabs. In other components of LibreOffice, the dialog has only four tabs. Find more details in the relevant component guides.
Getting Started Guide

Chapter 3
Styles and Templates
Using consistent formatting in your documents
Introduction

There are two basic ways to format text and other elements. Understanding these two alternatives is essential for unlocking the power of LibreOffice:

Direct (or manual) formatting
Applies formatting directly to specific paragraphs, characters, pages, frames, lists, tables, cells, and other elements. For example, you can select a word, then click on an icon on the Formatting toolbar or the Sidebar to format the text as bold or italic.

Styles
Bundles formatting attributes under one name. For example, a paragraph style defines numerous settings such as font type and size, whether paragraphs should be indented, the space between lines, how paragraphs should be aligned on the page, and many others.

Using styles is highly recommended
LibreOffice is a styles-based program. It may work somewhat differently from other programs you are familiar with. Using styles effectively requires some planning, but the time spent in planning can save time and effort over the longer term.

Because styles apply whole groups of attributes at the same time, you can easily format a document consistently and change the formatting of an entire document with minimal effort.

Styles are also 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 uses of styles are given in “Other ways to manage templates” on page 81.

Note
Direct formatting overrides styles. You cannot remove manual formatting by applying a style to it. To remove direct formatting, select the text, right-click, and choose Clear Direct Formatting in the context menu. Alternatively you can clear direct formatting from selected text by pressing Ctrl+M (Ctrl+Shift+M in Impress), by selecting Format > Clear Direct Formatting on the Menu bar, by selecting the Clear Direct Formatting icon on Writer’s Formatting toolbar, or by selecting the Clear Direct Formatting icon on Calc’s Standard toolbar.

What are styles?
A style is a set of formats that you can apply to selected elements such as pages, text, frames, cells, and others in a document to quickly set or change their appearance. Applying a style often means applying a 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 accustomed to manually applying attributes such as the font family, font size, and any formatting such as bold or italic.

Using styles means that instead of applying “font size 14pt, Times New Roman, bold, centered” you can apply (for example) a “Title” style, 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.
Types of styles in LibreOffice

LibreOffice supports the following types of styles:

- **Page styles** include margins, headers and footers, borders and backgrounds. In Calc, page styles also define 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.
- **Table styles** apply predefined formats to tables and table elements in a text document.
- **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.
- **Drawing 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 2. Details are given in the user guide for each component.

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

**Table 2. Styles available in LibreOffice components**

<table>
<thead>
<tr>
<th>Style Type</th>
<th>Writer</th>
<th>Calc</th>
<th>Draw</th>
<th>Impress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Page</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Paragraph</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Character</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frame</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>List</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Table</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cell</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Presentation</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drawing</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Applying styles

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

- Styles deck on the Sidebar
- Styles menu on the Menu bar (Writer and Calc)
- Set Paragraph Style list (Writer) and Apply Style list (Calc) on the Formatting toolbar
- Right-click context menu (Writer and Calc)
- Fill Format mode (Writer and Calc)
- Keyboard shortcuts
Styles deck on the Sidebar

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

1) Select View > Styles or Styles > Manage Styles on the Menu bar, or press F11 (⌘+T on macOS), or click the Styles tab on the Sidebar (View > Sidebar to open it).

   The Styles deck optionally shows previews of the styles available. Figure 39 shows the panel for Writer, with Paragraph Styles visible and with previews off.

2) Select one of the icons at the top left of the Styles deck to display a list of styles in that category.

3) To apply an existing style, position the cursor in the paragraph, frame, page, word, or cell, 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 deck is a drop-down list where you can select what styles will be listed in the Styles panel. In Figure 39 the list shows All Styles defined for the document. It could show Applied Styles (only the styles used in the document) or other groups of styles, for example Custom Styles.

**Figure 39:** The Styles deck for Writer, showing paragraph styles and filter

Styles menu (Writer and Calc)

In Writer, the Styles menu has the most commonly used paragraph, character, and list styles for text documents, as well as entries for style management. The Styles menu does not have styles for frames, pages, or tables.

To apply a paragraph style, position the cursor anywhere in the paragraph, and then select one of the paragraph styles in the Styles menu. To apply a character style to several characters or more than one word, select the characters first and apply the character style from the menu.

In Calc, the Styles menu has cell styles and style management entries. To apply a cell style, select the cell or group of cells to be formatted, and then select the required style.
Set Paragraph Style list (Writer) and Apply Style list (Calc)

In Writer, after you have used a paragraph style at least once in a document, the style name appears in the Set Paragraph Style list at the left-hand end of the Formatting toolbar.

In Calc, after you have used a cell style at least once in a spreadsheet, the style name appears in the Apply Style list at the left-hand end of the Formatting toolbar. If the Apply Style list is not visible, you can enable it using one of the methods given in “Customizing toolbars” in Chapter 1, Introducing LibreOffice.

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 Styles at the bottom of the list to open the Styles deck on the Sidebar.

Context (right-click) menu (Writer and Calc)

In Writer, right-click anywhere in a paragraph to open the context menu; choose Paragraph. Or, right-click in a word and choose Character in the context menu. In Calc, right-click in a cell and choose Styles in the context menu.

In each case, the submenu includes some commonly used styles. You can add styles to this submenu; see Chapter 14, Customizing LibreOffice.

Fill Format mode (Writer and Calc)

You can use Fill Format mode to apply a style to many different areas quickly without having to go back to the Styles deck 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 deck on the Sidebar and select the style you want to apply.
2) Click the Fill Format Mode icon at the top of the Styles deck.
3) To apply a paragraph, page, frame, or cell style, hover the mouse over the paragraph, page, frame, or cell and click.
   To apply a character style, hold down the mouse button while selecting the characters.
   Clicking on a word applies the character style to that word.
4) Repeat step 3 until you have applied that style everywhere you desire.
5) To quit Fill Format mode, click the Fill Format Mode icon again or press the Esc key.

**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 more details.

**Modifying styles**

LibreOffice includes some predefined styles, but you can also create custom styles (see page 69). You can modify both predefined and custom styles in several ways:

- Change a style using the Styles deck on the Sidebar
- Update a style from a selection
- Use AutoUpdate (paragraph and frame styles only)
- Load 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 load styles from one document to another.

**Changing a style using the Styles deck**

To change an existing style using the Styles deck on the Sidebar, right-click on the required style and select Modify in the context menu.

A Style dialog is displayed with title, content, and layout dependent on the type of style selected. Each variant of the dialog has several tabs. See the chapters on styles in the component user guides for more information.

**Tip**

You can also access the relevant Style dialogs through the Set Paragraph Style (Writer) and Apply Style (Calc) lists. Click the arrow at the right of the entry for the style to be modified and select Edit Style in the context menu. You can access the appropriate Style dialog for the style of the current selection by going to Styles > Edit Style on the Menu bar.

**Updating a style from a selection**

To update a style from a selection:

1) Open the Styles deck on the Sidebar.
2) In the document, select an item that has the format you want to adopt as a style.

**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) On the Styles deck, select the style to update, then click on the arrow next to the Styles actions icon and select Update Selected Style (Figure 41).

![Figure 41: Updating a style from a selection](image)

**Tip**

Other ways to modify the current style include pressing Ctrl+Shift+F11 (Writer), selecting Styles > Update Selected Style on the Menu bar (Writer and Calc), or clicking the Update Selected Style icon on the Formatting toolbar (Writer).

You can also modify a style through the Set Paragraph Style (Writer) and Apply Style (Calc) lists. Click the arrow at the right of the entry for the style to be modified and select Update to Match Selection in the drop-down menu (Figure 42).

![Figure 42: Modifying a style from the Set Paragraph Style list](image)

**Using AutoUpdate (Writer)**

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 the 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.
Creating new (custom) styles

You may want to add some new styles. You can do this by using the Style dialog, or the New Style from Selection tool, or by dragging and dropping, as explained below.

Creating a new style using the Style dialog

To create a new style using the Style dialog, open the Styles deck on the Sidebar and select the category of the style you wish to create by clicking one of the icons at the top of the deck. Then right-click on any style name and select New in the context menu.

The new style will inherit characteristics from the style that you selected. If you later 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. You can change any of those characteristics using the Style dialog.

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 deck on the Sidebar and choose the category of style you want to create.
2) In the document, select the item you want to save as a style.
3) On the Styles deck, click on the Styles actions icon and click the New Style from Selection menu item in Writer or the New Style from Selection icon in Calc, Draw, and Impress.
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 category. Click OK to save the new style.

![Figure 43: Naming a new style created from a selection](image)

**Tip**

You can also create a new style from a selection by pressing Shift+F11 (Writer), by selecting Styles > New Style from Selection (Writer, Calc), or by clicking the New Style from Selection icon on the Formatting toolbar (Writer).
Dragging and dropping to create a style
You can drag and drop a selection into the Styles deck to create a new style. The element to drag depends upon the LibreOffice application.

**Writer**
Select some text and drag it to the Styles deck to open the Create Style dialog. 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 deck to open the Create Style dialog and create a cell style. *(Click and then Shift+Click to select the cell.)*

Adding table styles in Writer
Table styles are stored in the LibreOffice user profile, and are available to all Writer documents. You can define new table styles following these steps:

1) Create a table and apply formatting for cells, backgrounds, borders, and more.
2) Select the whole table.
3) Drag the table and drop it in the Table Styles category of the Styles deck on the Sidebar.

Alternatively:
1) Create a table and apply formatting for cells, backgrounds, borders, and more.
2) Click in the table and select **Table > AutoFormat Styles** on the Menu bar. On the AutoFormat dialog (Figure 44), click the **Add** button.
3) In the pop-up dialog, enter a name for the new table style, and then click **OK**.
4) The new table style is now listed in the left pane of the AutoFormat dialog. Click **OK** again to close the dialog.

The new table style can be applied to tables as described in “Applying styles” on page 64.

![Figure 44: Table AutoFormat dialog](image)

Copying styles from a template or document (Writer)
In Writer, 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) On the Styles deck, click the **Style actions** icon, and then select **Load Styles**.
3) On the Load Styles dialog (Figure 45), find the template from which to copy styles. To copy styles from a document that is not a template, click the From File button to open a file selection dialog and locate the required document.

4) Select the categories of styles to copy from the checkboxes at the bottom of the Load Styles 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 45: Copying styles from a template into the open document](image)

**Tip**

You can also access the Load Styles dialog by selecting **Styles > Load Styles** on the Menu bar.

---

**Renaming styles**

You can rename custom styles, but not the styles supplied with LibreOffice. To do so, go to the Styles panel on the Sidebar and click the icon for the type of style you want to rename. Right-click on the style and select **Modify** in the context menu to open the Styles dialog. On the Organizer tab, rename the style and click **OK**.

---

**Deleting styles**

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

You can delete 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, on the Styles deck select each one to be deleted (hold down the *Control* key while selecting multiple styles), and then right-click on a selected style and select **Delete** in 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. Select **Yes** to continue with the deletion.
Caution

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

Using the Style Inspector (Writer)

The Style Inspector (Figure 46) is located on the Sidebar in Writer. It displays all the attributes of the styles (paragraph and character) and any direct formatting present in the paragraph or word where the cursor is located. For more information, see the Writer Guide.

![Style Inspector example](image)

What are templates? Why use them?

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 always 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, or download and install, as many templates as you wish, and you can specify a template as the default for each type of document (text, spreadsheet, drawing, presentation). If you do not choose a template when you start a new document, then the new 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 78 for more information.

In Writer, you can create templates for master documents as well as for ordinary documents.

Creating a document from a template

A new installation of LibreOffice may not include many templates, but you can create your own (see “Creating a template” on page 74) or install templates obtained from other sources (see “Adding templates obtained from other sources” on page 75).
To create a document from a template:

1) Select **File > New > Templates** on the Menu bar, or select **File > Templates > Manage Templates** on the Menu bar, or press **Ctrl+Shift+N**, or click on the small arrow next to the **New** icon on the Standard toolbar and select **Templates** in the drop-down menu, or select **Templates > Manage Templates** in the Start Center. The Templates dialog opens.

2) In the **Filter** lists at the top of the Templates dialog, you can select the type and category of template you want to use. The relevant templates are listed on the dialog (as shown in Figure 47).

3) Select the required template and click **Open**, or double-click on the selected template. A new document based on the 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.

**Tip**

You can also create a document from a template by double-clicking the template in the system's file explorer window. However, the template is then not associated with the document. See “Other ways to manage templates” on page 81.

**Tip**

In the Start Center, you can click on the **Templates** button to view the available templates without opening the Templates dialog. Click on the required template to create a new document.

![Figure 47: Templates dialog, showing context menu for a selected template](image_url)
Creating a template

You can create templates by saving a document as a template or (in Writer) 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; general behaviors set from Tools > Options, such as paths and colors; and menu and toolbar customizations.

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.

To create a template from a document:

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) On the Menu bar, choose File > Templates > Save as Template. The Save As Template dialog (Figure 48) opens, displaying the existing categories and a name box.
5) Optionally select a Template category, such as My Templates or Business Correspondence. You can also set this template as a default template at this time or do it later.
6) Click Save. The template is saved and the dialog closes.

Creating a template using a wizard

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

1) On the Menu bar, choose File > Wizards > [type of template required] (Figure 49).
2) Follow the instructions on the pages of the wizard. This process is slightly different for each type of template, but the format is similar.
3) In the last section of the wizard, you can specify the template name that will show in the Templates dialog, and also the name and location for saving the template. The two names can be different but this may later cause confusion. The default location is your user templates directory, but you can choose a different location.

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.

5) Finally, you can choose whether to create a new document from the template immediately, or manually change the template. Click Finish to save 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).

To get to the official LibreOffice template repository, type https://extensions.libreoffice.org/ in your browser’s address bar or click the Get more extensions online... link in the Extension Manager, described in Chapter 14, Customizing LibreOffice. This opens the Extensions web page (Figure 50). In the Search section, click the Templates tag filter. You can narrow your search by also choosing other tag filters, such as Writer.

After setting the filters, click the Search button. In the search results, find the required template and click on its name to display a page with details; click the Download button to put the template anywhere on your computer. Proceed to “Installing templates” on page 76.
You can also use the Extensions button in the lower left of the Templates dialog, as shown in Figure 51, to open an Extensions: Templates dialog, where you can scroll through a list of extensions. In this version of LibreOffice, there is no easy way to filter this list, so you may prefer to go directly to the web page, as described above.

![Figure 51: Getting more templates for LibreOffice](image)

On other websites, you may find collections of templates that have been packaged into extension (.OXT) files.

### Installing templates

You can install templates using either the Templates dialog or the Extension Manager dialog.

To install templates using the Templates dialog:

1. Download the template or package and save it anywhere on your computer.
2. In the Templates dialog, click the Import button on the bottom right (Figure 51). The Select Category dialog appears.
3. Select the category where you want to import the template and click OK. A standard file browser window opens.
4. Find and select the template that you want to import and click Open. The file browser window closes and the template is imported and appears in the selected category.

To install templates using the Extension Manager:

1. Download the template or package and save it anywhere on your computer.
2. In LibreOffice, select Tools > Extension Manager on the Menu bar. In the Extension Manager dialog, click Add to open a file browser window.
3. Find and select the template or 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 the Templates dialog and the extension is listed in the Extension Manager.

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

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. You can also add new template folders in other locations; see Chapter 2, Setting up LibreOffice, for more information.
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) Open the Templates dialog, as described in step 1 of “Creating a document from a template” on page 72.

2) In the Templates dialog, find the template that you want to edit. Right-click on it and then click **Edit** in the context menu (Figure 47). The template opens in LibreOffice.

3) Edit the template and save your changes as you would for any other document.

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**. To connect the document to the template again, use the procedure described in “Changing the template assigned to a document” below.

Changing the template assigned to a document

At times you might want to associate a document with a different template, or perhaps you’re working with a document that did not start from a template or one that has become detached from its template.

You can change the template assigned to a document, or reconnect a document to a template, in two ways: manually or using the Template Changer extension to LibreOffice.

- To change or reassign a template manually, first create a new, blank document from the required template, as described on page 72. Then copy the contents of the old document into the new document.

- To use the Template Changer extension, first you need to download and install it, then restart LibreOffice to activate it. After that, you can open the document and use **File > Templates > Change template (current document)** on the Menu bar.

**Note**

Changing or updating a template affects only the formatting used in styles. It does not affect any content. You may also need to manually update content, for example a logo, copyright notice, or the layout of a copyright page.
Setting a default template

If you create a Writer, Calc, Impress, or Draw document by choosing File > New > [Type of Document] on the Menu bar, or by selecting one of the buttons in the Create area of the Start Center, LibreOffice creates the document from the default template for that type of document. You can, however, change the default whenever you choose.

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 Templates dialog to be the default for that document type:

1) Open the Templates dialog, as described in step 1 of “Creating a document from a template” on page 72.
2) In the Templates dialog, open the category containing the template that you want to set as the default, then select the template.
3) Right-click on the selected template and click Set as Default in the context menu (Figure 47). An icon marks the template as the default.

The next time that you create a document of that type by choosing File > New (or equivalent), 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 Templates dialog, click the Settings button on the bottom left (Figure 52).
2) Point to Reset Default Template in the drop-down menu, and click Text Document (or other required 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 (or equivalent), the document will be created from the original default template for the document type.
Organizing templates

LibreOffice can manage only those templates that are in its template folders (categories), although you can create a document from a template that is not in one of these folders. You can create new template categories and use them to organize your templates. For example, you might have one template category for report templates and another for letter templates. You can also import and export templates.

To begin, open the Templates dialog as described in step 1 of “Creating a document from a template” on page 72.

Creating a template category

To create a template category:

1) Click the Settings icon in the lower left of the Templates dialog.
2) Click New Category on the context menu (Figure 53).
3) In the pop-up dialog, type a name for the new category and click OK. The new category now appears in the list of categories.

Deleting a template category

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

However, you can delete a category that you created. Open the Templates dialog, click the Settings icon and select Delete Category in the pop-up menu (Figure 53). On the Delete Category dialog, select the category to be deleted and click OK. When a message box appears asking you to confirm the deletion, click Yes. If you attempt to delete a supplied category, you will receive an error message and the category will not be deleted.

Renaming a template category

You cannot rename template categories supplied with LibreOffice. You can only rename categories that you created.

Open the Templates dialog, select the category in the Filter list at the top, then click the Settings icon and select Rename Category in the pop-up menu. In the Rename Category dialog, type the new name and click OK. If you attempt to rename a supplied category, you will receive an error message and the category will not be renamed.

Renaming a template

You cannot rename templates supplied with LibreOffice. You can only rename a template that you have created or imported.
Open the Templates dialog, find and select the template you want to rename, then right-click on the template and select **Rename** in the context menu. In the small dialog that opens, type a name in the **Enter New Name** text box and click **OK**. If you attempt to rename a supplied template, you will receive an error message and the template will not be renamed.

This action changes the Title on the Description tab of the template’s document properties. It does not change the file name of the template.

**Moving a template**

To move a template from one template category to another, select it in the Templates dialog, and click the **Move** button near the bottom of the dialog. In the Select Category dialog (Figure 54), select the destination category and click **OK**. The selected template is moved to the folder. You can also create a new category into which to move the template.

![Figure 54: Moving templates to another category](image)

**Deleting a template**

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

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

1) In the **Filter** drop-down lists at the top of the Templates dialog, select the category that contains the template you want to delete.

2) Select the template to delete.

3) Right-click on the template to open the context menu and click **Delete** (Figure 47).

4) A message box appears and asks you to confirm the deletion. Click **Yes**. If you attempt to delete a supplied template, you will receive an error message and the template will not be deleted.

**Tip**

You can also press the **Delete** key on the keyboard to delete the selected template in the Templates dialog.
Exporting a template

To export a template from a template category to another location in your computer or network:

1) In the Templates dialog, select the template that you want to export.
2) Click the Export button in the bottom right of the dialog. A file browser window opens.
3) Find the folder where you want to export the template and select Select Folder or OK.
4) Click OK on the displayed information dialog.

Note
Exporting a template does not remove it from the Templates dialog. The action places a copy of the template in the location you specify.

Other ways to manage templates

You can create and use templates stored anywhere on your computer, without using the Templates dialog. However, some results are different from those described earlier in this chapter.

Creating a document from a template

You can create a document from a template by double-clicking the template in your computer’s file browser window.

The resulting document is not associated with (linked to) the template from which it was created. The template is not listed in the document’s properties and any changes to the template cannot be directly applied to the document. For many purposes, such as writing a letter, this may be what you want.

Creating a template from a document

You can create a template from a document using File > Save As and selecting the relevant template file type, then saving it anywhere you want, for example in a project folder.

The resulting template will not be visible in the Templates dialog, unless you import it or add the project folder to the locations shown for templates on the LibreOffice – Paths page of the Tools > Options dialog (see “Paths” in Chapter 2, Setting Up LibreOffice).

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 Style page styles that come with LibreOffice. Figure 55 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 5, Formatting Pages: Basics, in the Writer Guide.
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 Style 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 56.

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, where the other pages are in a portrait orientation. This setup can also be created with page breaks and page styles.

To insert a landscape page in the middle of your document, position the cursor at the point where you want to start the new (landscape) page. Click Insert > More Breaks > Manual Break on the Menu bar. In the Insert Break dialog, select Page Break under Type, and select a page style with landscape orientation in the Page Style list. Click OK to insert the page. To go back to the portrait page style, insert another page break and select the portrait page style you are using (which may be Default Page Style, if you haven’t selected or created a different one). See the Writer Guide for more information.

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 > Chapter 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 in this guide 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, which are covered in detail in the *Writer Guide*:

- Templates and styles (see Chapter 3)
- Page layout methods, including styles, frames, columns, and tables
- Automated tables of contents and indexes
- Embedding or linking of images, equations, spreadsheets, and other objects
- Built-in drawing tools
- Master documents, to group a collection of documents into a single document
- Change tracking during revisions
- Lists
- Tables of data
- Database integration, including a bibliography database
- Mail merge
- Export to PDF and EPUB (see Chapter 10)
- Document digital signatures
- Form design and filling
- And many more

The Writer interface

The main Writer workspace is shown in Figure 57. The default menus and toolbars are described in Chapter 1, Introducing LibreOffice. Some other features of the Writer interface are covered in this chapter. Other user interface variants are described in Chapter 14, Customizing LibreOffice.

![Figure 57: The main Writer workspace](image)
Status bar

The Writer Status bar provides information about the document and convenient ways to change some document features quickly.

![Status bar components](image)

**Figure 58: Status bar components**

**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 one to go to that location.
- To jump to a specific page in the document, click on this field. A small Go to Page dialog pops up. Type the required page number and click **OK** or press **Enter**.

**Word and character count**
- The word and character counts of the document are kept up to date as you edit. When text is selected, the word and character counts for the selection will appear here.
- The character count includes spaces. To display the character count excluding spaces, click on the word count in the Status bar, or choose **Tools > Word Count**.
- You can also see the number of words and characters (and other information including the number of pages, tables, and graphics) in the entire document in **File > Properties**, **Statistics** tab.

**Page style**
- Shows the style of the current page. To select a different page style, right-click on this field. A list of page styles pops up; click on one to select it. To edit the attributes of the current page style, left-click on this field. The Page Style dialog opens.

**Caution**

Changing the page style here may affect the styles of subsequent pages, depending on how the page styles are set up. See the **Writer Guide** for details.

**Text language**
- Shows the language and localization at the cursor position, or for the selected text, that is used for checking spelling, grammar, hyphenation, and the thesaurus.
- Click to open a menu where you can choose another language or localization 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. Click to change to Overwrite mode; click again 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 Record Changes mode.

**Selection mode**
Click to cycle between the selection modes; right-click to select the required mode from a context menu. The icon does not change, but when you hover the mouse pointer over this field, a tooltip indicates which mode is active.

<table>
<thead>
<tr>
<th>Mode</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard selection</td>
<td>Click in the text where you want to position the cursor and drag to where you want the selection to end. Any previous selection is deselected.</td>
</tr>
<tr>
<td>Extending selection (F8)</td>
<td>Clicking in the text extends or crops the current selection.</td>
</tr>
<tr>
<td>Adding selection (Shift+F8)</td>
<td>A new, separate selection is added to an existing selection. The result is a multiple selection.</td>
</tr>
<tr>
<td>Block selection (Alt+Shift+F8)</td>
<td>A block of text can be selected.</td>
</tr>
</tbody>
</table>

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 changes appearance to indicate whether the document has no unsaved changes, or it has been edited and the changes have not been saved. When there are unsaved changes, you can click on this icon to save the document.

**Digital signature**
If the document has been digitally signed, an icon is displayed here; otherwise, it is blank. To sign the document, or to view the certificate, click the area or icon. See Chapter 10, Printing, Exporting, Emailing, for more information.

**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. 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, multiple pages, and book layout views (Figure 59). You can edit the document in any view. Zoom settings interact with the selected view layout and the window width to determine how many pages are visible in the document window.

**Zoom**
To change the view magnification, drag the Zoom slider, or click on the + and – signs, or right-click on the zoom level percent (Zoom factor) to pop up a menu of magnification values from which to choose, or click on the zoom level percent to pop up the Zoom & View Layout dialog where you can specify other magnification values.
Sidebar

The Sidebar is normally open by default on the right side of the Writer window. If necessary, select View > Sidebar on the Menu bar, or press Ctrl+F5, to display it. An example is shown in Chapter 1, Introducing LibreOffice.

The Writer Sidebar contains five decks by default: Properties, Page, Styles, Gallery, Navigator, and Style Inspector. Each deck has a corresponding icon on the Tab bar on the right of the Sidebar, allowing you to switch between them.

Each deck consists of a title bar and one or more content panels. Some panels contain a small More Options button, which opens a dialog to give greater choice of editing controls. When a dialog is open, the document is locked for editing until the dialog is closed.

The decks are described below.

Properties deck

Contains tools for direct formatting of content.

When text is selected, these panels appear:

- **Style**: Apply a paragraph style at the cursor position. Create or update a style.
- **Character**: Modify text by the font type, size, color, weight, style, and spacing.
- **Paragraph**: Modify the paragraph by alignment, lists or bullets, background color, indent, and spacing.
- **Table**: If the cursor is in a table, this panel also appears. You can insert, select, delete rows and columns; split/merge cells; set row height and column width; others.

When a graphic or image is selected, these panels appear:

- **Area**: Modify the image background fill and transparency. Further colors, gradients, hatching, patterns, and bitmap selection and importing are available in More Options.
- **Image**: Modify the image brightness, contrast, color mode, and transparency.
- **Wrap**: Modify wrap and spacing where these are available.
- **Position and Size**: Modify width, height, rotation, and flip attributes.

When a drawing object is selected, these panels appear:

- **Area**: Modify fill and transparency.
- **Effect**: Add and adjust a Glow or Soft Edge effect to the object.
- **Line**: Modify style, width, color, and transparency.
- **Position and Size**: Modify width, height, rotation, and flip attributes.

Figure 59: View layouts: single page, multiple pages, book
When a frame is selected, then the Area and Wrap panels appear. When a video or audio clip is selected, these panels appear:

– Media Playback: Control for play, pause, stop, seek, loop, and volume.
– Position and Size: Modify width and height.

**Page deck**

Modifies the page style to change the most commonly used page properties. It has four panels:

- **Format** modifies the size, width, height, orientation, and page margins.
- **Styles** modifies the numbering scheme, background, page layout (specifies whether the page style should apply to odd or even pages or to both), and columns.
- **Header and Footer** activate/deactivate and modify the respective margins, spacing, and content.

⚠️ **Caution**

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

**Styles deck**

Manages the styles used in the document. This includes applying existing styles, modifying them, or creating new ones. See Chapter 3, Styles and Formatting, for more information.

**Gallery deck**

Contains images and diagrams included in the Gallery themes. The Gallery has two sections. The first lists the themes by name (Arrows, Bullets, 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, drag and drop the selected image. See Chapter 11, Images and Graphics, for more information.

**Navigator deck**

Makes it easy to navigate to specific types of content and to reorganize contents based on categories, such as headings, tables, frames, images, and so on. See page 91 for more information.

**Style Inspector deck**

Displays all the attributes of paragraph styles, character styles, and manual (direct) formatting for selected text. For more information, see Chapter 7, Working with Styles, in the Writer Guide.

**Changing document views**

Writer has three ways to view a document: Normal, Web, and Full Screen. To change the view, go to the View menu and select the desired view.

**Normal view**

Normal view is the default view in Writer. It shows how the document will look when you print it or create a PDF. In this view, you can hide or show the headers and footers and the gap between pages by choosing View > Show Whitespace on the Menu bar. This works only when single-page view is activated in the Status Bar. Hiding whitespace also works in Full Screen view.
Web view

Web view shows how the document will look if viewed in a Web browser; this is useful when you create HTML documents. In Web view, you can use only the Zoom slider; the View Layout buttons on the Status Bar are disabled, and most of the choices on the Zoom & View Layout dialog are not available. There is no visual indication of page boundaries.

Full Screen view

In Full Screen view, no toolbars or sidebar are displayed; the document takes up the full area available, using the zoom and layout settings previously selected. To exit Full Screen view and return to the previous view, press the Esc key or click the Full Screen button on the floating toolbar in the top left-hand corner. You can also use Ctrl+Shift+J to toggle between Full Screen and the previous views.

Working with documents

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

By default, LibreOffice creates and saves files in the OpenDocument format (ODF). Writer documents have the extension .ODT.

Tip

Whenever it is possible to choose the document file format, you should choose to work with the default ODF format. This reduces the likelihood of errors and compatibility issues.

Saving as a Microsoft Word file

You may need to open, edit, and save documents in Microsoft Word formats. You can also create and edit .ODT files and then save them as .DOCX or .DOC 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. Also, saving in ODF format enables you to re-save or modify the document if the recipient of your document experiences trouble with the Microsoft format.

2) Then choose File > Save As.

3) On the Save As dialog, in the File type drop-down menu, select the type of Word format you need. You may also choose to change the file name.

4) Click Save.

This creates a separate document with a different file extension (such as .DOCX). From this point on, all changes you make to the document will occur only in the new document. If you want to go back to working with the .ODT version of your document, you must open it again.

Tip

To have Writer save documents by default in a 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.
Moving quickly through a document

Using the Navigator

The Navigator provides several convenient ways to move around a document and find items in it. It lists the headings, tables, text frames, graphics, bookmarks, and other objects in the document.

- 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.
- In the top left of the Navigator is a Navigate By drop-down list. You can pick a type of object (such as a bookmark, table, or index entry) and then use the Previous (^) and Next (v) buttons to jump from one to the next. See Figure 60.
- On the top right of the Navigator is a Go to Page field, which you can use to jump directly to a specific page.

For more uses of the Navigator in Writer, see Chapter 1 of the Writer Guide.

Using the Go to Page dialog

To jump to a specific page in the document:

- Use the Go to Page field on the top right of the Navigator (see above).
- Use the Go to Page dialog (Figure 61), which shows the current page number and the number of pages in the document. Type the number of the destination page in the text box and click OK. To open this dialog, do any of the following:
  - Click on the page number field in the Status bar.
  - Choose Edit > Go to Page on the Menu bar.
  - Press Ctrl+G on the keyboard.

![Figure 60: Navigate By list on Navigator](image)
![Figure 61: Go to Page dialog](image)
Working with text

Selecting, copying, pasting, or moving text in Writer is similar to working with text in other programs. 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 non-consecutive items (as shown in Figure 62) 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.

To select non-consecutive items using the keyboard:

1) Select the first piece of text.
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 (copy it, delete it, change the style, and so on).

Press Esc to exit from this mode.

For more information about keyboard selection of text, see the topic “Navigating and selecting with the keyboard” in LibreOffice Help (F1).

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 Block selection mode. To change to Block selection mode, use Edit > Selection Mode > Block Area, or press Alt+Shift+F8, or right-click on the Selection icon on the Status bar and select Block selection in the pop-up menu.
Now highlight the selection, using mouse or keyboard, as shown below.

<table>
<thead>
<tr>
<th>January</th>
<th>February</th>
<th>March</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>May</td>
<td>June</td>
</tr>
<tr>
<td>July</td>
<td>August</td>
<td>September</td>
</tr>
<tr>
<td>October</td>
<td>November</td>
<td>December</td>
</tr>
</tbody>
</table>

*Figure 64: Selecting a vertical block of text*

**Cutting, copying, and moving 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. 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 **Copy / Paste** buttons on the Standard toolbar, or the options under **Edit** on the Menu bar.

**Pasting text**

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 on the Standard toolbar or use **Ctrl+V**, any formatting the text has (such as bold or italics) is retained. Text pasted from websites 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 inherit the paragraph style at the insertion point:

- Choose **Edit > Paste Special**
- Click the arrow on the **Paste** button on the Standard toolbar
- Double click the **Paste** button without releasing the left mouse button
- Press **Ctrl+Shift+V**

Then select **Paste Unformatted Text** or **Unformatted text** in the resulting menu. Unformatted text can also be pasted directly by pressing **Ctrl+Alt+Shift+V** on the keyboard.

**Finding and replacing text and formatting**

Writer has two ways to find text and formatting within a document: the Find toolbar for fast searching and the Find and 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**

By default, the Find toolbar is docked at the bottom of the LibreOffice window (just above the Status bar) as shown in Figure 65, but you can float it or dock it in another location. If the Find toolbar is not visible, you can display it by choosing **View > Toolbars > Find** on the Menu bar, selecting **Edit > Find** on the Menu bar, or by pressing **Ctrl+F**. For more information on floating and docking toolbars, see Chapter 1, Introducing LibreOffice.
To use the Find toolbar, click in the text input box and type your search text, then press Enter to find the next occurrence of that term. Click the Find Next or Find Previous (arrow) 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 also match the case (capitalization). To open the Find and Replace dialog, click the icon to the right of Match Case.

To close the Find toolbar, click the X button on the left, or press Esc on the keyboard when the cursor is in the search box.

**Using the Find and Replace dialog**

To display the Find & Replace dialog (Figure 66), use any of the following methods:

- Press Ctrl+H on the keyboard.
- Choose Edit > Find and Replace on the Menu bar.
- Click the Find and Replace icon on the Find toolbar.

When the Find and Replace dialog is open, optionally click Other options to expand it.

1. Type the text you want to find in the Find box.
2. To replace the text with different text, type the new text in the Replace box.
3. You can select various options such as matching the case or matching whole words only. The other options include searching only in selected text, searching from the current cursor position backwards toward the beginning of the file, searching for similar words, searching in comments, and using regular expressions (wildcards). The exact options may vary with your language settings (Tools > Options > Language Settings > Languages).
4. When you have set up the search, click Find Next. To replace the found text, click Replace. 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, without stopping for you to accept each instance.

**Caution**

Use Replace All with caution; otherwise, you may end up with mistakes that you won’t be able to undo later if you save and close the file. (Ctrl+Z works only before the file is saved.) A mistake with Replace All might require a manual, word-by-word, search to fix.

**Tip**

Regular expressions offer powerful ways to search and replace text. For example, they can find all instances where any number is followed by specific letters. However, they can be challenging to understand. Refer to the Help files for guidance.

For more information on using Find and Replace, see the Writer Guide.
Inserting special characters

A special character is one not found on a standard user’s keyboard. For example, © ¼ æ ç ņ ò ø ç are all special characters not available on an English keyboard.

To insert one or more special characters, place the cursor where you want the character to appear. Then do one of the following:

- Click the **Special Character** icon on the Standard toolbar to open a list of favorite and recently used characters and click on the one you wish to insert (Figure 67). You can also open the Special Characters dialog (Figure 68) by clicking the **More Characters** button.

- Choose **Insert > Special Character** on the Menu bar, to open the Special Characters dialog (Figure 68). Double-click the characters (from any font or mixture of fonts) you wish to insert, in order, then click **Insert**.
The Special Characters dialog (Figure 68) includes areas to select Recent Characters and Favorite Characters. To add a new character to the Favorite Characters list, click on a character and click the Add to Favorites button.

**Tip**

Different fonts have their own distinct special characters. If you do not find a particular special character, try changing the Font selection.

### Inserting non-breaking spaces and hyphens

**Non-breaking spaces**

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. This inserts a non-breaking space. You can also use Insert > Formatting Mark > Insert non-breaking space on the Menu bar.

**Non-breaking hyphens**

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 or use Insert > Formatting Mark > Insert non-breaking hyphen.

### Inserting en and em dashes

To enter en and em dashes as you type, you can use Replace dashes on the Options tab in the AutoCorrect dialog (Tools > AutoCorrect > AutoCorrect Options). This option replaces one or two hyphens, under certain conditions, with the corresponding dash. See the Help or the Writer Guide for more details and other methods of inserting dashes.
— An en-dash is a dash the width of the letter “n” in the font you are using. Type at least one character, a space, a hyphen, another space, and at least one more letter. The hyphen will be replaced by an en-dash.

— An em-dash 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. Exception: if the characters are numbers, as in a date or time range, the two hyphens are replaced by an en-dash.

Checking spelling and grammar

By default, four dictionaries are installed for each language: a spelling checker, a grammar checker, a hyphenation dictionary, and a thesaurus (assuming it is available for that language). The spelling checker determines if each word in the document is in the installed dictionary. The grammar checker works in combination with the spelling checker. You can choose to check spelling and grammar automatically as you type, or at any other time, or both.

Checking spelling and grammar automatically

When Automatic Spell Checking is selected in the Tools menu, Standard toolbar, or Options dialog, each word is checked as it is typed and a wavy red line appears under any unrecognized words. If Check grammar as you type has also been enabled, errors are marked with a wavy blue underline. See “Checking grammar” on page 98.

At any time, you can right-click on an unrecognized word to open a context menu (Figure 69), where you can choose one of the suggested words to replace it. When the word is corrected, the line disappears. If the word is correct but not in the dictionary, you can choose Add to dictionary. If the list does not contain the word you want, click Spelling to open the Spelling dialog (Figure 70).

Using the Spelling dialog

In addition to automatic checking, or in place of it, you can perform a combined spelling and grammar check on the document (or a text selection). Click the Check Spelling button on the Standard toolbar, or choose Tools > Spelling, or press F7 on the keyboard. This checks the document or selection and opens the Spelling dialog if any unrecognized words are found. To also identify potential grammar problems, select the Check grammar checkbox.
Here are some more features of the spelling checker:

**Text language**
The language to be used for checking spelling can be selected in this drop-down list.

**Add a word to the dictionary**
Add a word to the dictionary by clicking Add to Dictionary in the Spelling dialog or in the context menu. The word will be added to the Standard dictionary, unless you have created another dictionary in the same language. If you have created a new dictionary, you will be given a choice of dictionaries to add the word to.

**Choose text for spell checking**
Choose whether to check uppercase words or words that contain numbers, by clicking the Options button on the Spelling dialog to open a dialog similar to the one in Tools > Options > Language Settings > Writing Aids, described in Chapter 2.

**Manage custom dictionaries**
Create, edit, or delete dictionaries and edit words in the dictionary in the same Options dialog.

**Specify language for specific paragraphs**
Set paragraphs to be checked in a language (different from the rest of the document) using several methods—for example, by clicking on the Text Language field on the Status Bar or by creating paragraph styles for specific languages. See “Using built-in language tools” on page 114 or refer to the Writer Guide for more information.

See the Writer Guide for more information about the spelling and grammar checking options.

**Checking grammar**
If any grammar errors are detected, they are shown underlined by a wavy blue line. Right-click on this line to open a context menu.

The first entry in the context menu describes the suspected broken grammatical rule.
The second menu item may be **Explanations**, which opens your browser to a web page offering more information about the error. Next may be the suggested correction. Clicking this changes the text to the suggestion.

In the third section of the context menu, you can choose to ignore the indicated error, or open the Spelling dialog (Figure 70). In the final section of the menu, you can set the language for the selection or the paragraph.

You can select additional grammar checking rules through **Tools > Options > Language Settings > English sentence checking**, or through **Tools > Extension Manager > English spelling dictionaries > Options**. See Chapter 2, Setting up LibreOffice, for details.

### Using synonyms and the thesaurus

To access a short list of synonyms, right-click on a word and point to **Synonyms** in the context menu. A submenu of alternative words and phrases is displayed. Click on a word or phrase in the submenu to have it replace the highlighted word or phrase in the document.

The thesaurus gives a more extensive list of alternative words and phrases. To use the thesaurus, click on **Thesaurus** in the **Synonyms** submenu. If the current language does not have a thesaurus installed, this feature is disabled.

### Using AutoCorrect

Writer’s AutoCorrect function has a long list of common misspellings and typing errors, which it corrects automatically. It also includes codes for inserting special characters, emoji, and other symbols.

AutoCorrect is turned on by default. You may wish to disable some of its features, modify others, or turn it off completely. To turn AutoCorrect off, uncheck **Tools > AutoCorrect > While Typing**.

You can add your own corrections or special characters or change those supplied with LibreOffice. Choose **Tools > AutoCorrect > AutoCorrect Options** to open the AutoCorrect dialog. On the **Replace** tab, 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 other options available to fine-tune AutoCorrect.

---

**Tip**

LibreOffice has an extensive list of special characters accessible with AutoCorrect. For example, type :smiling: and AutoCorrect will replace it with ☺. Or, (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 > AutoCorrect Options and deselect Enable word completion on the Word Completion tab.

Options for customizing word completion from the AutoCorrect dialog include:

- 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.
- As you add words when working on documents, you can either save them for later use in other documents or select the option to remove them from the list when closing documents.
- 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), Space bar, and Tab.

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, fields, 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.

To store some text as AutoText:

1) Type the text into your document, then select the text.
2) Choose Tools > AutoText on the Menu bar (or press Ctrl+F3).
3) In the AutoText dialog (Figure 72), type a name for the AutoText in the Name box. Writer will suggest a one-letter shortcut, which you can change.
4) Choose the category for the AutoText entry, for example My AutoText.
5) Click the AutoText button at the bottom of the dialog and select in the menu either New, to have the AutoText retain specific formatting, no matter where it is inserted, or New (text only), to have the AutoText take on the existing formatting around the insertion point.
6) Click Close to return to your document.

To insert AutoText, type the shortcut and press F3.

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.
Changing the case of selected text

To quickly change the case of text, select it, choose **Format > Text** on the Menu bar, and then choose one of the items on the submenu. The most common are:

- **UPPERCASE**, where all letters are capitalized.
- **lowercase**, where no words (except proper nouns) are capitalized.
- **Sentence case**, where only the first word is capitalized (together with any proper nouns).
- **Capitalize Every Word**, where every word is capitalized.
- **Small capitals**, which capitalizes all letters in a reduced font size.

Writer does not have an automated way to do **Title Case**, where all words are capitalized except for certain subsets defined by rules that are not universally standardized. However, you can use **Capitalize Every Word** and then restore those words that you do not want capitalized.

Formatting text

You can format text in two ways. See Chapter 4, Formatting Text, in the *Writer Guide* for details.

**Direct (or Manual) formatting**

Applies formatting directly to specific paragraphs, characters, pages, frames, lists, or tables. For example, you can select a word, then click on a button on the Formatting toolbar to format the text as bold or italics.

**Styles**

Bundles formatting options. For example, a paragraph style defines numerous settings for options such as font type and size, whether paragraphs should be indented, the space between lines, how paragraphs should be aligned on the page, and many others.
Using styles is highly recommended

Writer is designed to be a style-based program. Because styles apply whole groups of formats at the same time, they enable you to easily format a document consistently and to change the formatting of an entire document with minimal effort. 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.

Writer defines six types of styles: paragraph, character, frame, page, list, and table. See Chapter 3, Styles and Templates, in this book and also refer to the Writer Guide.

Formatting paragraphs using styles

Styles can be applied to paragraphs in several ways:

- Styles drop-down selection list at the left end of the Formatting toolbar
- Styles deck of the Sidebar
- Styles menu on the Menu bar (limited to common styles)
- Keyboard shortcuts Ctrl+1 to Ctrl+5 (paragraph styles Heading 1 to Heading 5)

You can also open a Formatting (Styles) toolbar using View > Toolbars > Formatting (Styles); see Figure 73.

![Figure 73: Formatting (Styles) toolbar](image)

Formatting paragraphs directly

You can manually apply many direct 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:

- Set Paragraph Style
- Bullets On/Off (with a palette of bullet styles)
- Numbering On/Off (with a palette of numbering styles)
- Align Left, Align Center, Align Right, 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, Hanging Indent
- Paragraph (to open the Paragraph dialog)
- Set Line Spacing

**Note**

Direct formatting (also called manual formatting) overrides styles. This means that when a new style is applied, direct formatting is not removed and still determines the displayed format.

Removing direct formatting

To remove direct formatting, select the text and choose Format > Clear Direct Formatting on the Menu bar, or right-click and choose Clear Direct Formatting in the context menu, or press Ctrl+M on the keyboard, or select the Clear Direct Formatting icon on the Formatting toolbar.
When clearing direct formatting, the text formatting will return to the applied paragraph and character style and not the default paragraph style or default character style (unless these styles are actually applied to the text).

Formatting characters using styles
To apply a character style, highlight the characters or words and apply the selected character style from the Character Styles tab of the Styles deck on the Sidebar, in the Styles menu on the Menu bar (limited), or from the right-click context menu (limited).

Formatting characters directly
It is recommended that you use styles to format characters as much as possible rather than formatting characters directly, as described in this section.

You can directly 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, Overline, Double Underline, 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)

Just as direct paragraph formatting overrides the current paragraph style, applying direct character formatting to characters overrides the current character style formatting.

Formatting tables
Tables in a Writer document share the same sets of formatting elements as the spreadsheets in LibreOffice Calc.

To apply table styles, click in the table to be formatted and double-click on a style listed in the Table Styles tab of the Sidebar’s Styles deck. Alternatively, click in the table to be formatted, choose Table > AutoFormat Styles on the Menu bar and select a style from the dialog that opens. For more information, refer to Chapter 13, Tables of Data, in the Writer Guide.

Autoformatting
You can set Writer to format or correct parts of a document automatically as you type, according to the choices made on the Options and Localized Options tabs of the AutoCorrect dialog (Tools > AutoCorrect > AutoCorrect Options).

Autoformatting on the Options tab includes URL recognition, bulleted and numbered lists, capitalizing the first letter of every sentence, and correcting two initial capitals on words.
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.

The **Localized Options** tab controls the formatting of quotation marks and apostrophes (which look like a closing single quote). Most fonts include curly quotation marks (also known as “smart quotes”), but for some purposes (such as marking minutes and seconds of latitude and longitude) you may wish to format them as straight quotes.

<table>
<thead>
<tr>
<th><strong>Straight quotes</strong></th>
<th><strong>Smart quotes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>‘ ‘ “ ”</td>
<td>‘ ‘ “ ”</td>
</tr>
</tbody>
</table>

**Tip**

If you notice unexpected formatting changes occurring in your document, this is the first place to look for the cause. In most cases **Edit > Undo** (Ctrl+Z) fixes the issue.

**Creating lists with styles**

For more about creating lists using styles, see Chapter 12, Lists: Tips and Tricks, in the **Writer Guide**.

**Creating bulleted and numbered lists**

Whenever possible, use paragraph styles for creating bulleted and numbered lists. Writer comes with two sets of paragraph styles for this purpose. However, these styles do not include options for settings such as the type of bullet or position of numbers. Those settings come from list styles, which are a different type of style than paragraph styles. It is recommended to use them together in these ways:

- Use paragraph styles List 1, List 2, List 3, and so on for creating bulleted lists. These styles use Bullet list styles.
- Use paragraph styles Numbering 1, Numbering 2, Numbering 3, etc, for creating numbered lists. These styles use the list styles called Numbering 1, Numbering 2, etc.

To assign a list style to one of these paragraph styles, go to the Styles deck in the Sidebar, right-click on the paragraph style you want to use, then choose **Modify**. On the **Outline & Numbering** tab on the Paragraph Style dialog, in the **Numbering style** drop-down list, choose the appropriate list style (Figure 74).

Paragraph styles such as List 1 Start and List 1 End enable you to adjust specific properties (such as the space between paragraphs) for items at the beginning or end of the list.

**Note**

List styles are not meant to be used on their own. Rather, they are designed to be attached to paragraph styles.
Creating nested lists using styles

With paragraph styles, you can easily create nested lists, in which list items have sub-items under them, as in an outline. This requires specifying the settings for the additional levels. To do this, right click on the list style (not the paragraph style), select Modify, and specify how each layer will be labeled, using the Numbering Style tab. Also specify the position and spacing for each level on the Position tab. Refer to the Writer Guide for details.

Once you have set up nested lists, you can readily change the hierarchy of an item. To demote an item one level, position the cursor at the beginning of the line (after the bullet or number) and press the Tab key. To promote an item one level, press Shift+Tab.

Creating lists with direct formatting

Creating bulleted and numbered lists

Bullets and numbers can be manually applied in three basic ways:

- Use AutoCorrect to autoformat text, as described above
- Use the Toggle Bulleted List and Toggle Numbered List buttons on the Formatting toolbar
- Use the Paragraph panel of the Sidebar’s Properties deck

Bullets and numbering can be applied to already selected text or they can be applied as you type.

Tip

Bullets and numbering applied in these ways cannot be removed with Format > Clear Direct Formatting on the Menu bar, or with the Clear Direct Formatting icon on the Formatting toolbar, or by using Ctrl+M. Rather, they are turned off or removed from selected text by toggling the relevant buttons on the Formatting toolbar, or on the Sidebar’s Properties deck.
Creating nested lists

Use the buttons on the Bullets and Numbering toolbar to move items up or down the list, create sub-items, 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 Tools > AutoCorrect > While Typing.

The Toggle Bulleted List and Toggle Numbered List buttons on the Sidebar’s Properties deck can also be used to create nested lists. Click the down arrow next to the relevant button, then click More Bullets/Numbering to 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.

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, right-click and choose Paragraph > Paragraph. On the Paragraph dialog, go to the Tabs tab.

A better strategy is to define tabs for the paragraph style. This is done on the Tabs tab of the Paragraph Style dialog.

Tip

Using tabs to space out material on a page is not recommended. Depending on what you are trying to accomplish, a table or frame might be 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 spacing of default tab stop intervals, go to Tools > Options > LibreOffice Writer > General.

Figure 75: Selecting a default tab stop interval
Changing measurement units for tab stops and rulers

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.

![Changing the measurement unit for a ruler](image)

**Figure 76: Changing the measurement unit for a ruler**

Hyphenating words

You can hyphenate words at the end of a line in two ways: let Writer do it automatically (using styles and its hyphenation dictionaries), or insert soft hyphens manually where needed. Or, you can choose to not hyphenate at all.

**Automatic hyphenation using styles**

To turn automatic hyphenation of words on or off:

1) On the Styles deck on the Sidebar, go to Paragraph Styles, right-click on Default Paragraph Style (or another style you want to use) and select **Modify**.

2) On the Paragraph Style dialog (Figure 77), go to the **Text Flow** tab.

3) Under **Hyphenation**, select or deselect **Automatically**. When automatic hyphenation is on, you can also set the criteria for when it should occur. Click **OK** to save.

**Note**

Turning on hyphenation for the Default Style paragraph 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 not based on Default Style are not affected. See Chapter 3, Styles and Templates, for more about styles based on styles other than Default Style.

![Turning on automatic hyphenation in a paragraph style](image)

**Figure 77: Turning on automatic hyphenation in a paragraph style**
Setting hyphenation with Writing Aids

You can also set hyphenation options through Tools > Options > Language Settings > Writing Aids. These choices apply when there is no specific setting in a paragraph style.

In Options, near the bottom of the dialog, scroll down to find the hyphenation settings.

![Figure 78: Setting hyphenation options](image)

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

Note

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

Manual hyphenation

Manually hyphenate words when you want only a specific word hyphenated at the end of a line. 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 soft hyphen, which is visible only when required.

To insert a soft hyphen inside a word, click where you want the hyphen to appear (when needed) and press Ctrl+hyphen or use Insert > Formatting Mark > Insert soft Hyphen. When the word is at the end of the line it will be hyphenated at this position, even if automatic hyphenation for this paragraph is switched off.

Formatting pages

Every page in Writer is based on a page style. Page styles define basic layout, including page size, margins, headers and footers, borders, backgrounds, and so on. Changes to these settings automatically change the page style. This means that, in contrast to paragraph styles, these settings cannot be used to directly format individual pages.

As with other styles, Writer comes with a number of page styles. You can modify these styles or create new ones. The Default Style page style is used when no other page style has been specified.

In addition to page styles, several features enable you to further control page layouts, including columns, frames, tables, and sections. For more information, see Chapters 5, Formatting Pages: Basics, and 6, Formatting Pages: Advanced, in the Writer Guide.

Tip

Page layout is usually easier if you show text, object, table, and section boundaries in Tools > Options > LibreOffice > Application Colors, and paragraph ends, tabs, breaks, and other items in Tools > Options > LibreOffice Writer > Formatting Aids.
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 a page number is placed in the header or footer of a page style. That information is then displayed on every page with the same page style (unless the page style specifies separate settings for the first page or for left and right pages).

**Inserting a header or footer**

You can insert a header in several ways. Here is the easiest:

- Click above the top margin (or below the bottom margin) to make the Header or Footer marker appear (Figure 79), and then click on the + sign.

![Figure 79: Header marker at top of text area](image)

After a header/footer has been created, a down-arrow appears on the marker. Click on this arrow to drop down a menu of choices for working with the header (Figure 80).

![Figure 80: Header menu](image)

Alternatively, you can choose Insert > Header and Footer > Header > Default Style (or some other page style, if not Default Style).

**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.

**Determining header and footer appearance**

To format a header (use similar settings for a footer), you can either click on Format Header in the menu shown in Figure 80 or go to Format > Page Style, Header tab. Both methods take you to the same tab on the Page Style dialog.
Here you can specify if headings on the left and right pages should be the same or different. You can also specify whether the first page will have no header or a different header than other pages.

In this dialog, you can also turn the header on or off, set the margins, and set the spacing between the header and document text.

![Page Style dialog, Header tab](image)

**Figure 81: Page Style dialog, Header tab**

**Inserting document title in headers and footers**

Information such as a document title is often put into the header or footer. These items are best added as fields. That way, if something (such as the name) changes, the headers and footers are updated automatically. Here is one common way to use fields to insert the document title into the header:

1) Choose **File > Properties**. On the **Description** tab, type a title for your document, and click the **OK** button.

2) Place the cursor in the header area at the top of the page.

3) Choose **Insert > Field > Title**. The title may appear on a gray background. The background does not show when printed and can be turned off in **Tools > Options > LibreOffice > Application Colors**.

For more about headers, footers, and fields, see 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 on page 109.

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

3) Change the alignment of the number if you wish (left, right, or center).

**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 > Field > 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 dialog (File > Properties). If you restart page numbering anywhere in the document, then the total page count may not be what you want. See 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. To restart page numbering:

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

1) Choose Format > Paragraph.
2) On the Text Flow tab of the Paragraph dialog (Figure 77 on page 107), select Insert in the Breaks area, and then select With page style and specify the page style to use.
3) Specify the page number to start from, and then click OK.

Tip

This is also useful for numbering the first page of a document with a page number greater than 1.

Line numbering

Line numbers in the margin are often used in legal documents, poetry, and lists of programming code. Writer can insert line numbers in an entire document or for selected paragraphs. Line numbers are included when you print the document.

You can choose how many lines are numbered (for example, every line or every tenth line), the numbering type, and whether numbers restart on each page.

To add line numbers to a document, choose Tools > Line Numbering and select the Show numbering option in the top left corner of the Line Numbering dialog. Then select any options you want and click OK.

You can also create a paragraph style that includes line numbering, and apply it to the paragraphs that you want to add line numbers to. For example, to number the lines of example code in a document, you will probably want to use a font or indentation that is different from normal text.

Changing page margins

You can change page margins in three ways:

- Using the page rulers—quick and easy, but does not allow fine control
- Using the Page Style dialog—allows you to specify margins with precision of up to two decimal places
- Using the Page deck of the Sidebar

Caution

When you change the margins, the page style is also changed and 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.

**Caution**

The two small gray triangles on the ruler are used for indenting paragraphs. The double-headed arrows shown in Figure 82 are mouse cursors shown in the correct position for moving the margin markers. Because the triangles and arrows are often in the same place, when changing page margins you need to be careful to move the arrows, not the gray triangles.

![Figure 82: Moving the margins](image)

To change margins using the Page Style dialog:

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

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

To change margins using the Page deck of the Sidebar:

1) On the Sidebar, open the Page deck.

2) On the **Format** panel, use the **Margins** drop-down list to select the desired margins from the defaults provided. Click the **More Options** button to open the Page Style dialog where you can enter exact margin distances.

**Adding a custom watermark to the page background**

To add a watermark to a page background:

1) Choose **Format > Watermark**.

2) In the Watermark dialog (Figure 83), type the text and select the font, angle, transparency and color of the watermark. Then click **OK**.

**Note**

The watermark will automatically become part of the page style where it is inserted and all other pages of the same style will have the watermark. Pages with different or no watermarks need different Page Styles for those pages.
Defining a different first page for a document

Many documents, such as letters and memos, 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.

You can do this in several ways, as described in Chapter 5, Formatting Pages, in the Writer Guide:

- Use the Default (or any other) page style for your document. Deselect the Same content on first page option on the Header/Footer tabs in the Page Style dialog, and then add different headers/footers to the first page and to the other pages of the document.
- Use different page styles for the first page and for the following pages. Set the Next Page attribute for the first page so the next page automatically becomes the style for following pages.
- Add a title page at the beginning of the document. Writer provides a fast and convenient way to add one or more title pages to a document and optionally to restart the page number at 1 for the body of the document, using Format > Title Page on the Menu bar.

Adding comments to a document

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

You can connect a comment to multiple paragraphs or a single point. To insert a comment, select the text, or place the cursor in the place the comment refers to, and choose Insert > Comment on the menu bar, click the Insert Comment icon on the Standard toolbar, 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 at the top of the page; you can click this button to toggle the display of the comments.

Formatting comments

At the bottom of the comment, Writer automatically adds the author’s name and a time stamp indicating when the comment was created. If more than one person edits the document, each author is automatically allocated a different background color. Figure 84 shows an example of text with comments from two different authors.
Choose Tools > Options > LibreOffice > User Data to provide the name you want to appear in the Author field of comments.

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. On this menu, you can also reply to a comment, open a dialog to apply some basic formatting to the text, and mark comments as Resolved. These options are also available on a drop-down menu accessed by clicking the down arrow icon at the bottom right of the comment.

Navigating through comments

To navigate from one comment to another, open the sidebar Navigator, expand the Comments section, and click on the comment text to move the cursor to the anchor point of the comment in the document. Click the comment directly to edit it and right-click on the comment to 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.

Printing comments

When a document contains comments, the print dialog has an option for comments to be printed next to the text in the right margin, as they appear on the screen. In that case, the text on each page is scaled down to make space for the comments. The Print dialog also has options for placing comments at the end of the page or at the end of the document, or for printing only the comments.

Using built-in language tools

Writer provides some tools that make work easier if you use more than one language in the same document or if you write documents in various languages. Changing the language for specific text enables you to use the correct dictionaries and rules to check spelling, grammar, and hyphenation. It also applies the localized versions of AutoCorrect replacement options and uses the appropriate thesaurus.

Options for applying languages

Tip

The language used at the location of the cursor is shown in the Status bar, next to the page style in use.
**Using styles**

Languages can be set on the Font tab of the Paragraph Style dialog or the Character Style dialog. See the Writer Guide for information on how to manage the language settings of a style.

**Caution**

Be careful when changing a language in character or paragraph styles, as this will change the language for all characters or paragraphs using that style. It may be useful to include the language in the name of the style.

Languages set with direct formatting will override languages set using styles.

**Using direct formatting**

The language of a whole document can be set by using Tools > Options > Language Settings > Languages. In the Default Languages for Documents section, you can choose the language for all the text that is not explicitly marked as a different language.

Set the language for the whole document, for individual paragraphs, or even for individual words and characters, in Tools > Language on the Menu bar, and select For Selection, For Paragraph or For All Text. If the required language is not available in the submenu, click More. The Tools > Options > Language Settings > Languages menu opens, where you can select the language as described above.

Alternatively, you can set the language for individual paragraphs and characters by selecting text or putting the cursor in a paragraph and changing the language on the Status bar. There is also an option More, in case the text is not directly available.

**Note**

Although these methods are a type of direct formatting, they cannot be cleared by using Format > Clear Direct Formatting on the Menu bar, clicking the Clear Direct Formatting icon on the Formatting toolbar, selecting Clear Direct Formatting in the context menu, or using Ctrl+M.

**Preventing text from being checked for spelling**

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

**Obtaining resources for additional languages**

The spelling checker works only for those languages in the Spelling dialog list that have a dictionary installed. You can install additional dictionaries using Tools > Language > Writing Aids > More Dictionaries Online.

**Creating a table of contents**

Writer can generate a 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 hierarchical heading levels (such as chapter and section headings): Heading 1, Heading 2, Heading 3, and so on. These headings 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 > Table of Contents and Index > Table of Contents, Index or Bibliography.

4) Change nothing in the Table of Contents, Index, or Bibliography dialog (unless you want to change the number of levels shown). 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, right-click anywhere within the table of contents and choose Update index in the context menu.

You can define your own heading styles and set them up in Tools > Chapter Numbering. You can also include other paragraph styles in the table of contents by assigning outline levels to those styles on the Outline & Numbering tab of the paragraph style dialog.

You can customize an existing table of contents at any time. Right-click anywhere in it and choose Edit Index in the context menu. Chapter 15, Tables of Contents, Indexes, Bibliographies, in the Writer Guide describes in detail all the customization options you can choose.

Creating indexes and bibliographies

Indexes and bibliographies work in a similar way to tables of contents. In addition to alphabetical indexes, other types of index supplied with Writer include those for illustrations, tables, and objects.

You can also 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 an index, you first need to create index entries in your Writer document. Chapter 15, Tables of Contents, Indexes, Bibliographies, in the Writer Guide describes how to do this.

Using footnotes and endnotes

Footnotes appear at the bottom of the page on which they are referenced. Endnotes are collected at the end of a document.

To work effectively with footnotes and endnotes, you need to:

- Insert footnotes and define their format.
  
  To insert a footnote or an endnote, put the cursor where you want the footnote or endnote marker to appear. Then select Insert > Footnote and Endnote on the Menu bar and choose Footnote or Endnote, or click the Insert Footnote or Insert Endnote button on the Standard toolbar.

  A footnote or endnote marker is inserted in the text and, depending on your choice, the cursor is relocated either to the footnote area at the bottom of the page or to the endnote area at the end of the document. Type the footnote or endnote content in this area.

  To format the footnotes themselves, click Tools > Footnotes and Endnotes. On the Footnotes/Endnotes Settings dialog, choose settings as required.


- Define the location of footnotes on the page, and the color and line styles for separator lines, if the defaults do not meet your needs. These are found on the Footnote tab of the Page Style dialog; see Chapter 5, Formatting Pages: Basics, in the Writer Guide.
Inserting material from other documents

You may wish to reuse material from other files in the document you are writing. For example, you might be writing a set of instructions that include some common paragraphs. You could, of course, retype or copy and paste the common paragraphs into each document. However, if the common paragraphs are edited, you may need to update that information in every document where it occurs.

Writer provides some tools for making these tasks easier:

- The Section dialog, described in Chapter 6, Formatting Pages: Advanced, in the Writer Guide.
- Two items in the Navigator’s drag modes: Insert as Link and Insert as Copy. See Chapter 3, Working with Text: Advanced, in the Writer Guide.

Working with images (graphics)

Images in Writer are of these basic types:

- Image files, including photos, drawings, and scanned images
- Diagrams created using LibreOffice’s drawing tools
- Artwork created using clip art or Fontwork
- Charts created using LibreOffice’s Chart facility


Working with tables of data

Tables are a useful way to organize and present large amounts of information. A well-designed table can often help readers understand better what you are saying. In addition to using tables for text or numbers, you could put other objects, such as pictures, in cells. Writer’s tables can often be used as an alternative to spreadsheets, and they provide limited spreadsheet functions.

To directly insert a table with the default properties, click the Insert Table icon on the Standard toolbar. On the drop-down graphic, choose the size of the table.

To insert a new table using the Insert Table dialog, where you can specify the properties for the table, position the cursor where you want the table to appear, then use any of the following methods to open the dialog:

- Choose Table > Insert Table on the Menu bar.
- Press Ctrl+F12.
- On the Standard toolbar, click the Insert Table icon and select More Options at the bottom of the drop-down graphic.

Writer provides many methods to format tables and the contents of cells. Refer to Chapter 13, Tables of Data, in the Writer Guide.
Printing and exporting to PDF or EPUB

See Chapter 10, Printing, Exporting, Emailing, and Signing Documents, in this book and Chapter 7 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.
- Exporting a Writer document to PDF (Portable Document Format) or EPUB (a popular ebook format).

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 features use data from a registered data source (a spreadsheet or database containing name and address records or other information). Chapter 14 in the Writer Guide describes the merge processes.

Tracking changes to a document

You can use several methods to keep track of changes made to a document. Details are in Chapter 3, Working with Text: Advanced, in the Writer Guide.

**Method 1** (Recommended)
Use Writer’s change marks (often called “redlines” or “revision marks”) to show added or deleted material or changed formatting. Comments can be recorded to explain the changes; these are handled a bit differently from the comments discussed in “Adding comments to a document” on page 113.

1) Open the document and choose Edit > Track Changes > Record before starting to edit.
2) 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 in the context menu, or choose Edit > Track Changes > Manage to view the list of changes and accept or reject them. You can also use the icons on the Track Changes toolbar.

**Method 2**
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 > Track Changes > Compare Document or Edit > Track Changes > Merge Document.

**Method 3**
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.

**Note**

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. Also, changes of a paragraph's profile are not recorded.
Caution

A document with track changes activated but with the changes not shown carries an invisible history of document editing that the current user may not be aware of. Contents deleted or modified can be recovered. While this is a feature, it is also a potential privacy risk.

Using fields

Fields are extremely useful features of Writer. You can use them for data that changes (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. See Chapter 17, Fields, in the Writer Guide for details.

Linking and cross-referencing within a document

If you manually 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: hyperlinks and cross-references.

Both methods insert links to other parts of the same document or to an external source, taking you directly to the cross-referenced item. However, they 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 about the type of content linked to (such as 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 can 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

See Chapter 12, Creating HTML Files, for details on creating hyperlinks within a document and to other documents and websites.

Creating and using cross-references

The Cross-references tab of the Fields dialog lists some items, such as headings, bookmarks, figures, tables, or numbered items such as steps in a procedure. You can also create your own reference items; see Chapter 17, Fields, in the Writer Guide.

To insert a cross-reference:

1) In the 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 71), in the Type list, select the type of item to be referenced (for example, Headings or Figure).
3) Click on the required item in the Selection list, which shows all the items of the selected type. You can type some characters in the top box under Selection to filter the list in the selection box.

![Fields dialog with Cross-references tab](image)

Figure 85: The Cross-references tab of the Fields dialog

4) In the Insert reference to list, select the option needed. The options determine the text inserted for the hyperlink and how it is formatted. The list varies according to the Type chosen. 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).

5) Click Insert.

You can leave this dialog open while you insert many cross-references.
Using bookmarks

You can use bookmarks to rapidly navigate or link to specific locations in a document. They 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.

To create a bookmark:

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 new bookmark in the top box, and then click Insert.

Using master documents

A master document joins separate text documents into one larger document, and unifies the formatting, table of contents, bibliography, index, and other tables or lists. Master documents are typically used for producing long documents such as a book, thesis, or long report. They are especially handy when different people are writing different sections of a document, eliminating the need to continually share the full document. For details on using master documents, see Chapter 16 in the Writer Guide.

Creating fill-in forms

In a standard text document, such as a report, any text can be edited. By contrast, a form has sections that are not to be edited, and other sections that are designed for the reader to fill in information. 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 enter information directly into a database or data source. 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 organize information fields in a form, including check boxes, option buttons, text boxes, pull-down lists, and spinners. Two toolbars are used to create forms: Form Controls and Form Design. See Chapter 18, Forms, in the Writer Guide for more information.
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, including 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.

Compatibility with other spreadsheet applications

Wildcards

Simple wildcards such as the asterisk (*), question mark (?), and tilde (~) from other spreadsheet applications are recognized by LibreOffice in formula expressions.

Formula syntax

By default, LibreOffice Calc uses its own formula syntax, referred to as Calc A1, rather than the Excel A1 syntax used by Microsoft Excel. LibreOffice will translate seamlessly between the two. However, if you are familiar with Excel you may wish to change the default syntax in Calc by going to Tools > Options > LibreOffice Calc > Formula and choosing Excel A1 or Excel R1C1 from the Formula syntax drop-down menu.

For more information on formula syntax, see Chapter 7, Using Formulas and Functions, in the Calc Guide.

Macros

Microsoft Office uses Visual Basic for Applications (VBA) code, and LibreOffice uses Basic code based on the LibreOffice API. Although the programming languages are the same, the objects and methods are different and therefore not entirely compatible.

LibreOffice can run some Excel Visual Basic scripts if you enable this feature at Tools > Options > Load/Save > VBA Properties.

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.

For more information, refer to Chapter 12, Calc Macros, in the Calc Guide.
Spreadsheets, sheets, and cells

Calc works with documents 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 up to 10,000 sheets, and each sheet can have a maximum of 1,048,576 rows and a maximum of 1024 columns.

Calc main window

When Calc is started, the main window opens (Figure 86). The parts of this window are described below. You can show or hide many of the parts as desired, using the View menu on the Menu bar.

Title bar

The Title bar, located at the top, shows the name of the current spreadsheet. When a spreadsheet is newly created from a template or a blank document, 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

Under the Title bar is the Menu bar. When you select one of the menu items, a sub-menu drops down to show commands. You can also customize the Menu bar; see Chapter 14, Customizing LibreOffice, for more information.
Most of the menus are similar to those in other components of LibreOffice, although the specific commands and tools may vary. The menus specific to Calc are Sheet and Data; in addition, several important data analysis tools are found in the Tools menu.

**Sheet**

The most often used commands for handling sheets, such as Insert and Delete Cells, Columns, Rows and Sheets; select Cell Reference Type; and Link to External Data.

**Data**

Commands for manipulating data in the spreadsheet; for example, Define Range, Sort, Filters, Statistics, Pivot Tables, Consolidate, Forms, Groups and Outlines.

**Tools**

Functions to help you check and customize the spreadsheet; for example, Spelling, Macros, Goal Seek, Solver, Scenarios, Detective, Protect Sheet, XML Filter Settings, and Extension Manager.

**Toolbars**

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 position and use of it and other toolbars are described in Chapter 1, Introducing LibreOffice.

**Formula bar**

The Formula Bar (Figure 87) is located at the top of the sheet in the Calc workspace. It is permanently docked in this position and cannot be used as a floating toolbar. However, it can be hidden or made visible by selecting or deselecting View > Formula Bar on the Menu bar.

![Figure 87: Formula Bar](image)

From left to right, the Formula Bar includes 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. If you have selected a range of cells that is also a named range, the name of the range is shown in this box. You can also type a cell reference in the Name Box to jump to the referenced cell. If you type the name of a named range and press the Enter key, the named range is selected and displayed.

- **Function Wizard** – opens a dialog from which you can search through lists of available functions and formulas. This can be very useful because it also shows how the functions are formatted.

- **Select Function** – this drop-down list provides five choices: Sum, Average, Min, Max, and Count (Figure 88).

![Figure 88: Select Function drop-down](image)
**Formula** – inserts an equals (=) sign into the selected cell and the *Input line*, allowing a formula to be entered. The *Name Box* now displays a drop-down list of the most frequently used functions, for a quick access to the function name and syntax.

**Input line** – displays the contents of the selected cell (data, formula, or function) and allows you to edit the cell contents. To turn it into a multi-line input area for very long formulas, click the down arrow on the far right-hand end of the *Input line*.

You can also directly edit the contents of a cell by double-clicking on the cell. When you enter or edit data in a cell, the *Select Function* and *Formula* icons change to *Cancel* and *Accept* icons.

### Note

In a spreadsheet, the term “function” covers much more than just mathematical functions. See Chapter 7, Using Formulas and Functions, in the *Calc Guide* for more information.

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**Status Bar**

The Calc Status Bar (Figure 89) 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, for more information.

![Figure 89: Calc Status Bar](image)

The Status Bar has a quick way to do some math operations on selected cells in the spreadsheet. You can view the calculated average and sum, count of elements, and more on the selection by right-clicking over the cell information area of the Status Bar and selecting the operations you want to display in the Status Bar.

**Sidebar**

The Calc Sidebar (*View > Sidebar* or *Ctrl+F5*) is located on the right side of the window. It is a mixture of toolbar and dialog. It is similar to the Sidebar in Writer (shown in Chapter 1 and Chapter 4 of this book) and consists of five decks: *Properties*, *Styles*, *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. The decks are described below.

**Properties**

This deck includes five content panels. These panels, with the exception of the Style panel, have a *More Options* button that opens a dialog with additional options. These dialogs lock the document for editing until they are closed.

**Style:** Access to the available cell styles, update cell styles, and new cell styles.

**Character:** Controls for formatting the text, such as font family, size, and color. Some controls, such as superscript, become active only when the text cursor is active in the *Input line* of the Formula bar or the cell.

**Number Format:** Quickly change the format of numbers including decimals, currency, dates, percentage, or numeric text; and leading zeroes.
Alignment: Controls to align the text in various ways, including horizontal and vertical alignment, wrapping, indenting, merging, text orientation, and vertical stacking.

Cell Appearance: Controls to set the appearance of cells, including cell background color, cell border formats including line color and style, and grid lines.

Styles, Gallery, Navigator
These decks are similar to those in Writer. Their use is described in the Calc Guide.

Functions
This deck contains a list of functions organized by category. It is a simpler version of the Function Wizard, which is opened by selecting Insert > Function on the Menu bar, pressing the Function Wizard icon on the Formula Bar, or by pressing Ctrl+F2.

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 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 87). If the headers are not visible on the spreadsheet, choose View > View Headers on the Menu bar.

Sheet tabs
Each Calc spreadsheet can contain multiple sheets. At the bottom of the grid of cells are sheet tabs indicating how many sheets are in the spreadsheet. By default, a new spreadsheet is created with one sheet named Sheet1. Click on a tab to display 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 clicking 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 in the context menu, or double-click on the sheet tab, to open the Rename Sheet dialog where you can type a new name for the sheet.

To change the color of a sheet tab, right-click on the tab and select Tab Color in the context menu to open the Tab Color dialog. Select a color and click OK. To add new colors to this color palette, see Chapter 14, Customizing LibreOffice.

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 semicolon. 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.

Note
Most CSV files come from database tables, queries, or reports, where further calculations and charting are required.
To open a CSV file in Calc:

1) Choose **File > Open** on the Menu bar and locate the CSV file. Most CSV files have the extension `.csv`. However, some CSV files may have a `.txt` extension.

2) Select the file and click **Open**.

3) On the Text Import dialog (Figure 90), select the required options for importing the CSV file into the Calc spreadsheet. For details about these options, see Chapter 1, Introducing Calc, in the **Calc Guide**.

4) Click **OK** to import the file.

![Figure 90: Text Import dialog](image)

---

**Saving spreadsheets**

For information on how to save files manually or automatically, see Chapter 1, Introducing LibreOffice. Calc can save spreadsheets in a range of formats and also export spreadsheets to PDF, HTML, XHTML file formats and JPEG and PNG images formats; see Chapter 6, Printing, Exporting, E-mailing, and Signing, in the **Calc Guide** for more information.

**Saving in other spreadsheet formats**

You can save a spreadsheet in another format:

1) Save the spreadsheet in Calc spreadsheet file format (`*.ods`).

2) Select **File > Save As** on the Menu bar to open the Save As dialog.
3) In the File name field, you can enter a new file name for the spreadsheet.

4) In the File type drop-down list, select the type of spreadsheet format you want to use.

5) If Automatic file name extension is present and selected, the correct file extension for the spreadsheet format you have selected will be added to the file name.

6) Click Save.

When a spreadsheet file is saved in a format other than .ods, the Confirm File Format dialog opens (Figure 91). 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. If you uncheck Ask when saving in ODF or default format, this dialog no longer appears when saving in another format.

![Confirm File Format dialog](image)

*Figure 91: Confirm File Format dialog*

If you select Text CSV format (*.csv) for your spreadsheet, the Export Text File dialog (Figure 92) opens. Here you can select the character set, field delimiter, string (text) delimiter, and so on to be used for the CSV file.

![Export Text File dialog for CSV files](image)

*Figure 92: Export Text File dialog for CSV files*

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**Note**

Once you have saved a spreadsheet in another format, all changes you make to the spreadsheet will now occur only in the format you are using. If you want to go back to working with a *.ods version, you must save the file as a *.ods file.
Tip

To have Calc save spreadsheets by default in a file format other than .ods, go to Tools > Options > Load/Save > General. In the Default File Format and ODF Settings area, select Spreadsheet in Document type, then in Always save as, select your preferred file format.

Exporting contents as an image

To send a fragment of a spreadsheet to someone or publish it on the Internet, you can export a range selection or a selected group of shapes (images) to a PNG or JPG graphics format:

1) Select the cell range or the group of shapes, then select File > Export.
2) In the Export dialog, type a name for the image, select the graphics file format, and mark the Selection checkbox.
3) Click Export or Save, as appropriate.

Calc may open a further dialog for you to configure the settings associated with the selected graphics 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.

Mouse: place the mouse pointer over the cell and click the left mouse button.

Cell reference: delete the existing cell reference in the Name Box on the Formula Bar (Figure 87 on page 125). Type the new cell reference and press Enter. Cell references are case-insensitive.

Navigator: press F5 to open the Navigator (Figure 93) or click the Navigator button on the Sidebar. Type the cell reference into the Column and Row fields, or use the adjacent increment / decrement buttons, and press Enter.

Enter key: moves the cell focus down in a column to the next row. Shift+Enter moves the focus up in a column to the previous row. You can change the action of the Enter key; see “Customizing the Enter key” on page 132.

Tab key: moves the cell focus right in a row to the next column. Shift+Tab moves the focus to the left in a row to the previous column.

Arrow keys: the arrow keys on the keyboard move the cell focus in the direction of the arrow pressed.

Home, End, Page Up, and Page Down keys:

– 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 in the right-most column 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, though references can be linked from one sheet to another. To navigate between sheets in a spreadsheet:

**Navigator** – double-click on any of the listed sheets to select the sheet.

**Keyboard** – Ctrl+Page Down moves one sheet to the right and Ctrl+Page Up moves one sheet to the left.

**Mouse** – click on a sheet tab at the bottom of the spreadsheet to select that sheet.

If your spreadsheet contains a lot of sheets, then some of the sheet tabs may be hidden. If this is the case:

- Using the four buttons to the left of the sheet tabs can move the tabs into view (Figure 94).
- Right-clicking on any of the arrows, or the +, opens a context menu where you can select a sheet (Figure 95).

![Navigator](image)

*Figure 93: Navigator*

![Navigating sheet tabs](image)

*Figure 94: Navigating sheet tabs*
When you insert a new sheet into a 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, the new sheet may not be in its correct numerical position. It is recommended to rename sheets in a spreadsheet to make them more recognizable.

**Keyboard navigation**

You can navigate a spreadsheet using the keyboard, by pressing a key or a combination of keys. See Chapter 1, Introduction, and Appendix A, Keyboard Shortcuts, in the Calc Guide for the keys and key combinations you can use for spreadsheet navigation in Calc.

**Customizing the Enter key**

You can choose the direction in which the Enter key moves the cell focus by going to Tools > Options > LibreOffice Calc > General. Use the first two options under Input Settings (Figure 96) to change the Enter key settings.

Select the direction cell focus moves from the drop-down list. The Enter key can also be used to switch into and out of editing mode. You can enable or disable the use of Enter to paste the content of a cell that has been copied to the clipboard.
Selecting items in a spreadsheet

Selecting cells

Single cell
Click in the cell. You can verify your selection by looking in the Name Box on the Formula Bar (Figure 87 on page 125).

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 to highlight the desired block of cells, then release the mouse button.
To select a range of cells without dragging the mouse:
1) Click in the cell that is to be one corner of the range of cells.
2) Hold down the Shift key and click in the opposite corner cell of the block of cells.

Tip
You can also select a contiguous range of cells by first clicking in the Selection mode field on the Status Bar (Figure 89 on page 126) 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 extend 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 in the Name Box on the Formula Bar (Figure 87 on page 125). 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 86 on page 124). 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 corner box between the column header A and the row header 1 (Figure 97), or use the key combination Ctrl+Shift+Space to select the entire sheet, or use Edit > Select All on the Menu bar.

Selecting sheets
You can select 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) Hold down the Shift key and click on the sheet tab for the last desired sheet.
3) All tabs between these two selections will turn white (default Calc setup). Any actions that you perform will now affect all the highlighted sheets.

Multiple non-contiguous sheets
To select multiple non-contiguous sheets:
1) Click on the sheet tab for the first desired sheet.
2) Hold down the Ctrl key and click on the sheet tab for the each additional desired sheet.
3) The selected tabs will turn white (default Calc setup).

All sheets
Right-click a sheet tab and choose Select All Sheets in the context menu, or select Edit > Select > Select All Sheets on the Menu bar.
Working with columns and rows

Inserting columns and rows

Single column or row

Using the Sheet menu:

1) Select a cell, column, or row where you want the new column or row inserted.
2) Go to Sheet on the Menu bar and select either Insert Columns > Columns Before, or Insert Columns > Columns After, or Insert Rows > Rows Above, or Insert Rows > Rows Below.

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 Before, Insert Columns After, Insert Rows Above, or Insert Rows Below in 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.

Hiding and showing columns and rows

To hide columns or rows:

1) Select the row or column you want to hide.
2) Go to Format on the Menu bar and select Rows or Columns.
3) Select Hide in the submenu. Alternatively, right-click on the row or column header and select Hide Rows or Hide Columns in the context menu.

To show hidden columns or rows:

1) Select the rows or columns on each side of the hidden row or column.
2) Go to Format on the Menu bar and select Rows or Columns.
3) Select Show in the submenu. Alternatively, right-click on a row or column header and select Show Rows or Show Columns in the context menu.

Deleting columns or rows

1) Select the columns or rows you want to delete.
2) Go to Sheet on the Menu bar and select Delete Rows or Delete Columns, or right-click on the column or row header and select Delete Columns or Delete Rows in the context menu.

Deleting cells

1) Select the cells you want to delete.
2) Go to Sheet > Delete Cells, or press Ctrl+-.. Or, right-click on a cell and select Delete in the context menu.
3) Select the option you require from the Delete Cells dialog (Figure 98) and click OK.
Working with sheets

Inserting new sheets

Click on the Add Sheet (+) icon next to the sheet tabs to insert 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 99), where you can position the new sheet, create more than one sheet, name the new sheet, or select a sheet from a file.

- Select the sheet where you want to insert a new sheet, then go to Sheet > Insert Sheet on the Menu bar.
- Right-click on the sheet tab where you want to insert a new sheet and select Insert Sheet in the context menu.
- Click in the empty space at the end of the sheet tabs.
- Right-click in the empty space at the end of the sheet tabs and select Insert Sheet in the context menu.

![Insert Sheet dialog](image)

Figure 98: Delete Cells dialog

Figure 99: Insert Sheet dialog
Moving and copying sheets

You can move or copy sheets within the same spreadsheet by dragging and dropping, or by 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.

In the Move/Copy Sheet dialog (Figure 100), you can specify exactly whether you want the sheet in the same or a different spreadsheet, its position within the spreadsheet, and the sheet name when you move or copy it.

1) In the current document, right-click on the sheet tab you wish to move or copy and select Move or Copy Sheet in the context menu, or go to Sheet > Move or Copy Sheet on the Menu bar.

2) In the Action area, select Move to move the sheet or Copy to copy the sheet.

![Figure 100: Move/Copy Sheet dialog](image)

3) Select the spreadsheet where you want the sheet to be placed in the drop-down list in To document. This can be the same spreadsheet, another spreadsheet already open, or 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 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 (Sheet2, Sheet3, ...).

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.
Hiding and showing sheets

Sometimes you may want to hide the contents of a sheet to preserve data from accidental editing or because its contents are not important to display.

To hide a sheet or many sheets, select the sheet or sheets as above, right-click to open the context menu, and select **Hide Sheet**.

To show hidden sheets, right-click any sheet tab and select **Show Sheet** in the context menu. A dialog will open with all hidden sheets listed. Select the desired sheets and then click **OK**. It is not possible to hide the last visible sheet.

For more information on how to hide and show data, including how to use outline groups and filtering, see Chapter 2, Entering, Editing, and Formatting Data, in the *Calc Guide*.

---

**Note**

Hidden elements are neither visible on a computer display nor printed when a spreadsheet is printed. However, they 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 to C. When you require a hidden element again, you can reverse the process and show the element.

Renaming sheets

By default, the name for each new sheet added is SheetX, where X is the sequential 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 each one when a spreadsheet contains many sheets.

To rename a sheet, use one of these methods:

- Enter the name in the **Name** text box when you create the sheet using the Insert Sheet dialog (Figure 99 on page 136).
- Right-click on a sheet tab and select **Rename Sheet** in 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.

Deleting sheets

To delete a single sheet, right-click on the sheet tab you want to delete and select **Delete Sheet** in the context menu, or go to **Sheet > Delete Sheet** on the Menu bar. Click **Yes** to confirm the deletion.

To delete multiple sheets, select the sheets (see “Selecting sheets” on page 134), then right-click on one of the sheet tabs and select **Delete Sheet** in the context menu, or go to **Sheet > Delete Sheet** on the Menu bar. Click **Yes** to confirm the deletion.
Viewing a spreadsheet

Changing document view

Use the zoom function (View > Zoom) 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.

Freezing rows and columns

Freezing is used to lock rows across the top of a spreadsheet or to lock columns on the left of a spreadsheet. Then, when moving around within a sheet, the cells in frozen rows and columns remain in view.

Figure 101 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.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>Q</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Date</td>
<td>Sales</td>
<td>Value</td>
<td>Category</td>
<td>Region</td>
<td>Employee</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>04/13/08</td>
<td>$498</td>
<td>Sailing</td>
<td>North</td>
<td>Kurt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>02/07/08</td>
<td>$1,383</td>
<td>Sailing</td>
<td>South</td>
<td>Kurt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>03/27/08</td>
<td>$669</td>
<td>Sailing</td>
<td>South</td>
<td>Hans</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>01/28/08</td>
<td>$155</td>
<td>Sailing</td>
<td>West</td>
<td>Brittte</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 101: Frozen rows and columns

Often the first row and column contain headings, which you may wish to be visible when scrolling through a long or wide spreadsheet. To quickly freeze either or both of these, use the Freeze Rows and Columns icon on the Standard toolbar for both, or the commands on the drop-down menu of the Freeze Rows and Columns icon: Freeze First Row and Freeze First Column for one of them.

To freeze either rows or columns (single or multiple):

1) Click on the row header below the rows you want the freeze or click on the column header to the right of the columns where you want the freeze.

2) Right-click and choose Freeze Rows and Columns in the context menu, or choose View > Freeze Rows and Columns on the Menu bar, or click the Freeze Rows and Columns icon on the Standard toolbar.

To freeze both rows and columns (single or multiple):

1) Click in the cell that is immediately below the rows you want to freeze and immediately to the right of the columns you want frozen.

2) Choose View > Freeze Rows and Columns on the Menu bar, or click the Freeze Rows and Columns icon on the Standard toolbar.

Unfreezing

To unfreeze rows or columns, either use View > Freeze Rows and Columns on the Menu bar, or click on the Freeze Rows and Columns icon on the Standard toolbar. 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 one time. An example of splitting the screen is shown in Figure 102, where a split is indicated by additional window borders within the sheet.
This could be useful, for example, when a large spreadsheet has one cell containing a number that is used by three formulas in other cells. By splitting the screen, you can position the cell containing the number in one section of the view and the cells with formulas in other sections. This makes it easy to see how changing the number in one cell affects each of the formulas.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Beta=</td>
<td>3.2</td>
</tr>
<tr>
<td>2</td>
<td>A0=</td>
<td>0.1</td>
</tr>
<tr>
<td>7</td>
<td>A1=</td>
<td>0.6421</td>
</tr>
<tr>
<td>8</td>
<td>A2=</td>
<td>0.6582</td>
</tr>
<tr>
<td>9</td>
<td>A3=</td>
<td>0.7219</td>
</tr>
<tr>
<td>10</td>
<td>A4=</td>
<td>0.6574</td>
</tr>
<tr>
<td>11</td>
<td>A5=</td>
<td>0.6597</td>
</tr>
</tbody>
</table>

Figure 102: Split screen example

Splitting horizontally or vertically

There are two ways to split a screen horizontally or vertically.

Method 1
To split either 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) Right-click and choose Split Window in the context menu, or choose View > Split Window on the Menu bar. Window borders appear between the rows or columns indicating where the split has been placed, as shown in Figure 102.

To split both horizontally and vertically at the same time:

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) Choose View > Split Window on the Menu bar.

Method 2
For a horizontal split, click on the thick black line at the top of the vertical scroll bar (Figure 103) and drag the split line below the row where you want the horizontal split positioned.

Similarly, for a vertical split, click on the thick black line at the right of the horizontal scroll bar and drag the split line to the right of the column where you want the vertical split positioned.

Figure 103. Split screen bars
Removing split views
To remove a split view, do one of the following:

- Double-click on each split line.
- Click and drag the split lines back to their default positions at the ends of the scroll bars.
- Go to View on the Menu bar and deselect Split Window.
- Right-click on a column or row heading and deselect Split Window in the context menu.

Entering data using the keyboard
Most data entry in Calc can be done using the keyboard.

Numbers
Click in the cell and type the number using the number keys on either the main keyboard or the numeric keypad. By default, numbers are right-aligned in a cell.

Negative 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; in this example, –1234.

Leading zeroes
If a number is entered with leading zeroes, for example 01481, by default Calc will drop the leading zero. To retain a minimum number of characters in a cell when entering numbers and retain the number format, for example 1234 and 0012, use one of these methods to add leading zeroes.

Method 1

1) With the cell selected, right-click on the cell, select Format Cells in 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 104). Make sure the Numbers tab is selected, then select Number in the Category list.

2) In the Leading zeroes field within the Options area, enter the minimum number of characters required. For example, for four characters, enter 4. Any number less than four characters will have leading zeroes added, for example 12 becomes 0012.

3) 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) On the Sidebar, go to the Properties deck.

3) In the Number Format panel (Figure 105), select Number in the drop-down list, and enter 4 in the Leading zeroes box. Formatting is applied immediately.
To format numbers with only decimal places, but without a leading zero (for example, .019 instead of 0.019), type a . (period or full stop) followed by ? (question mark) in the Format code box (Figure 104), to represent the number of decimal places required. For example, for 3 decimal places, type .??? and click OK. Any number with only decimal places will then have no leading zero.

---

**Tip**

To format numbers with only decimal places, but without a leading zero (for example, .019 instead of 0.019), type a . (period or full stop) followed by ? (question mark) in the Format code box (Figure 104), to represent the number of decimal places required. For example, for 3 decimal places, type .??? and click OK. Any number with only decimal places will then have no leading zero.

---

**Figure 104: Format Cells dialog – Numbers tab**

**Figure 105: Set leading zeroes in Sidebar**

<table>
<thead>
<tr>
<th>Category</th>
<th>Format</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>General</td>
<td>Default - English (USA)</td>
</tr>
<tr>
<td>User-defined</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Number</strong></td>
<td>-1235</td>
<td></td>
</tr>
<tr>
<td>Percent</td>
<td>-1,235</td>
<td></td>
</tr>
<tr>
<td>Currency</td>
<td>-1,234.57</td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>-1,234.57</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>(1,235)</td>
<td></td>
</tr>
<tr>
<td>Scientific</td>
<td>(1,234.57)</td>
<td></td>
</tr>
<tr>
<td>Fraction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boolean Value</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Text</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Options**

- **Decimal places:**
- **Leading zeroes:**

**Format Code**

0000

**User-defined**

---

Tip

To format numbers with only decimal places, but without a leading zero (for example, .019 instead of 0.019), type a . (period or full stop) followed by ? (question mark) in the Format code box (Figure 104), to represent the number of decimal places required. For example, for 3 decimal places, type .??? and click OK. Any number with only decimal places will then have no leading zero.
If numerical characters do not need to be treated as numbers in calculations (for example when entering zip codes), you can type an apostrophe (’) before the number, for example ‘01481. When you move the cell focus, the apostrophe is removed, the leading zeroes are retained, and the number is converted to left-aligned text.

**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** in 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 104).
2) Make sure the **Numbers** tab is selected, then select **Text** in the Category list.
3) Click **OK**. The number is converted to text and, by default, left-aligned.

**Method 2**
1) Select the cell.
2) On the Sidebar, go to the Properties deck. If necessary, click the **Open Panel** icon (+ or arrow) by **Number Format** to open that panel (Figure 105).
3) Select **Text** in the category drop-down list. Formatting is applied to the cell immediately.

**Note**
By default, 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. You can change this feature in **Tools > Options > LibreOffice Calc > Formula**. In **Detailed Calculation Settings**, select **Custom (conversion of text to numbers and more)**. Click the **Details** button, and then select the proper treatment in the **Detailed Calculation Settings** dialog.

**Text**
Click in the cell and type the text. By default, text is left-aligned in a cell. Cells can contain several lines of text. If you want to use paragraphs, press **Ctrl+Enter** to create another paragraph.

On the Formula bar, you can extend the **Input line** if you are entering several lines of text. Click on the **Expand Formula Bar** icon located on the right-hand end of the Formula bar and the **Input line** becomes multi-line.

**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 2020. 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:
1) With the cell selected, open the Format Cells dialog (Figure 104).
2) Make sure the **Numbers** tab is selected, then select **Date** or **Time** in the **Category** list.
3) Select the date or time format you want to use in the **Format** list. Click **OK**.
**Cell fields**

You can insert a field linked to the date, sheet name, or document name in a cell.

1) Select a cell and double-click to activate edit mode.
2) Right-click and select **Insert Field > Date**, or **Sheet Name**, or **Document Title** in the context menu.

Above those three options are other **Date** and **Time** buttons, which will insert the same information but it will not be updated or recalculated as the options mentioned above.

---

**Note**

The **Insert Field > Document Title** command inserts the name of the spreadsheet and not the title defined in the **Description** tab in the Properties dialog for the file.

---

**Tip**

The fields are refreshed when the spreadsheet is saved or recalculated when using the **Ctrl+Shift+F9** shortcut.

---

**AutoCorrect Options**

Calc automatically applies many changes during data input using AutoCorrect, unless you have deactivated any AutoCorrect changes. You can also undo any AutoCorrect changes by using **Edit > Undo** on the Menu bar, pressing 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 106).

- **Replace tab**
  - Edit the replacement table for automatically correcting or replacing words or abbreviations.

- **Exceptions tab**
  - Specify the abbreviations or letter combinations that you do not want corrected automatically.

- **Options tab**
  - Select the options for automatically correcting errors as you type.

- **Localized Options tab**
  - Specify the AutoCorrect options for quotation marks and for options that are specific to the language of the text.

- **Reset button**
  - Reset modified values back to their previous values.

---

**Deactivating automatic changes**

Some AutoCorrect settings are applied when you press the space bar after you enter data. To turn off or on Calc AutoCorrect, go to **Tools** on the Menu bar and deselect or select **AutoInput**. See also "AutoInput tool" below.
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 drag and drop 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.

AutoInput tool

The AutoInput tool in Calc automatically completes entries, based on other entries in the same column. When text is highlighted in a cell, AutoInput can be used as follows:

1) To accept the completion, press Enter or F2, or click the left mouse button.
2) To view more completions that start with the same characters, use the key combinations Ctrl+Tab to scroll forward, or Ctrl+Shift+Tab to scroll backward.
3) To see a list of all available AutoInput text items for the current column, use the keyboard combination Alt+Down Arrow.
When typing formulas using characters that match previous entries, a Help tip will appear listing the available functions that start with matching characters. AutoInput ignores the case sensitivity of any data you enter.

By default, AutoInput is activated in Calc. To turn it off, go to Tools on the Menu bar and deselect AutoInput.

**Fill tool**

You can use the Fill tool to duplicate existing content or create a series in a range of cells (see Figure 107).

1) Select the cell containing the contents you want to copy or start the series from.
2) Drag the cursor in any direction or hold down the Shift key and click in the last cell you want to fill.
3) Go to Sheet > Fill Cells on the Menu bar and select the direction in which you want to copy or create data (Fill Up, Fill Down, Fill Left, or Fill Right), or Fill Series, or Fill Random Number in the submenu.

**Tip**

You can use the keyboard shortcut Ctrl+D as an alternative to selecting Sheet > Fill Cells > Fill Down on the Menu bar.

![Figure 107: Using the Fill tool](image)

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.

**Caution**

When you are selecting cells so you can use the Fill tool, make sure that none of the cells contain data, except for the cell data you want to use. When you use the Fill tool, any data contained in the selected target cells is overwritten.
**Using a fill series**

When you select a series fill from **Sheet > Fill Cells > Fill Series**, the Fill Series dialog (Figure 108) opens. Here you can select the type of series you want.

![Fill Series dialog](image)

**Figure 108: Fill Series dialog**

**Defining a fill series**

If you select the **AutoFill** option on the Fill Series dialog, type some text in the **Start value** field, and press **OK**, Calc will check if one of your predefined sort lists contains that text. If there is a sort list containing that text, Calc uses the entries in that sort list to fill cells. Go to **Tools > Options > LibreOffice Calc > Sort Lists** to view your currently defined sort lists.

To define your own sort list, which can later be used as a fill series:

1) Go to **Tools > Options > LibreOffice Calc > Sort Lists** to open the Sort Lists dialog (Figure 109). This dialog shows the previously-defined series in the **Lists** box 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.

**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** in the context menu, or press **Alt+Down Arrow**. 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 > Select > Select Sheets on the Menu bar to open the Select Sheets dialog.
2) Select the individual sheets where you want the information to be repeated.
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.

Caution

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 the spreadsheet.
Validating cell contents

When creating spreadsheets for other people to use, you may wish to ensure 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, it 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 Chapter 2, Entering, Editing, and Formatting Data, in the Calc Guide for more information.

Editing data

Deleting data

Deleting data only
To delete only the data in a cell or range of cells, without deleting any of the cell formatting, select the cells and then press the Delete key.

To completely delete cells, rows, or columns, see the instructions on page 135.

Deleting data and formatting
Data and cell formatting can be deleted from a cell at the same time. To do this:

1) Select a cell or a range of cells.
2) Press the Backspace key, or right-click in the cell selection and choose Clear Contents in the context menu, or select Sheet > Clear Cells on the Menu bar.
3) In the Delete Contents dialog (Figure 110), choose any of the options or Delete all.
4) Click OK.

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 old data but will retain the cell formatting.

Alternatively, select the cell and click in the Input line on the Formula bar (Figure 87 on page 125), then double-click on the data to highlight it completely and type the new data.
Changing data
Sometimes it is necessary to edit the contents of a 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 F2 to switch the cell to edit mode. The cursor is placed at the end of the content in the cell.
3) Use the keyboard arrow keys to position the cursor where you want to start entering the new data in the cell, then press the delete key or backspace key to delete any unwanted data before typing the new data.
4) When you have finished editing, press the Enter key to save the changes.

Tip
You may want to enable Tools > Options > LibreOffice Calc > General > Press enter to switch to edit mode. Then, when you press the Enter key in a selected cell, the cell switches to edit mode, eliminating the need to press F2.

Using the mouse
1) Double-click on the cell to select it and place the cursor in the cell for editing. You can also use Edit > Cell Edit Mode on the Menu bar to put the cell in edit mode.
2) Either:
   • Reposition the cursor to where you want to start entering the new data in the cell.
   • Single-click to select the cell, then move the cursor to the Input line on the Formula bar and click at the position where you want to start editing data in the cell.
3) When you have finished, click away from the cell to deselect it and save the changes.

Paste Special function
To copy text, numbers, or formulas to the target cell or cell range:
1) Select the source cell or cell range and copy the data by pressing Ctrl+C or using Edit > Copy on the Menu bar.
2) Select the target cell or cell range.
3) Right-click on the target cell or cell range and select Paste Special in the context menu, then select Unformatted Text, Text, Number, or Formula.
   Or, use the submenu items reached from Edit > Paste Special on the Menu bar.
You can also use the Paste Special function to paste into another cell selected parts of the data in the original cell or cell range, for example its format or the result of its formula. To do this:
1) Select a cell or a cell range.
2) Go to Edit > Copy on the Menu bar, or press Ctrl+C, or right-click and select Copy in the context menu.
3) Select the target cell or cell range.
4) Go to Edit > Paste Special > Paste Special on the Menu bar, or use the keyboard shortcut Ctrl+Shift+V, or right-click and select Paste Special > Paste Special in the context menu to open the Paste Special dialog (Figure 111).
5) In the buttons at the top of the dialog, you can choose to paste **Values Only**, **Values & Format** or to **Transpose** the data in the target cells. Below, select the options for **Selection, Operations, Options**, and **Shift Cells**. These are described in the Help and in Chapter 2, Entering, Editing, and Formatting Data, of the *Calc Guide*.

6) Click **OK** to paste the data into the target cell or range of cells and close the dialog.

![Figure 111: Paste Special dialog](image)

### Formatting data

**Note**

All the settings discussed in this section can also be set as a part of the cell style. See Chapter 4, Using Styles and Templates, in the *Calc Guide* 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** in the context menu to open the Format Cells dialog.

2) On the **Alignment** tab (Figure 112), under **Properties**, select **Wrap text automatically** and click **OK**.
Method 2

1) Select the cell.
2) On the Properties deck of the Sidebar, open the Alignment panel (Figure 113).
3) Select the Wrap text option to apply the formatting immediately.

**Manual line breaks**

To insert a manual line break while typing in a cell, press Ctrl+Enter. When editing text, double-click the cell, then reposition the cursor to where you want the line break. In the Input line of the Formula bar, you can also press Shift+Enter.

When a manual line break is entered in a cell, the cell row height changes but the cell width does not change and the text may still overlap the end of the cell. You have to change the cell width manually or reposition the line break.
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** on the **Alignment** tab of the Format Cells dialog (Figure 112).

Merging cells

You can select contiguous cells and merge them into one as follows:

1) Select the range of contiguous cells you want to merge.
2) Right-click on the selected cells and select **Merge Cells** in the context menu, or go to **Format > Merge Cells > Merge Cells** or **Merge and Center Cells** on the Menu bar, or click on the **Merge and Center Cells** icon on the Formatting toolbar. Using **Merge and Center Cells** will center align any contents in the cells.
3) If the cells contain any data, a small dialog (Figure 114) opens, showing choices for moving or hiding data in the hidden cells. Make your selection and click **OK**.

![Figure 114: Merge choices for non-empty cells](image)

**Caution**

Merging cells can lead to calculation errors in formulas used in the spreadsheet.

Splitting cells

You can split a cell that was created from several cells by merging.

1) Select a merged cell.
2) Go to **Format > Merge Cells > Split Cells** on the Menu bar, or right-click and select **Split Cells** in the context menu, or click on the **Merge and Center Cells** icon on the Formatting toolbar.
3) Any data in the cell will remain in the first cell. If the hidden cells did have any contents before the cells were merged, then you have to manually move the contents in to the correct cell.
Formatting numbers

Several number formats can be applied to cells by using icons on the Formatting toolbar. Select the cell, then click the relevant icon to change the number format.

For more control or to select other number formats, use the Numbers tab of the Format Cells dialog (Figure 104 on page 142):

• Apply any of the data types in the Category list to the data.
• Control the number of decimal places and leading zeroes in the Options area.
• 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 on the sidebar’s Number Format panel of the Properties deck. Click the More Options button to open the Format Cells dialog.

Formatting fonts and text in cells

Tip

For consistency in a spreadsheet, use cell styles whenever possible.

To manually select a font and format text for use in a cell:

1) Select a cell or cell range.
2) Click the small triangle on the right of the Font Name box on the Formatting toolbar and select a font in the drop-down list, or use the Font Name box in the Character panel of the Properties deck on the Sidebar.
3) Click on the small triangle on the right of the Font Size box on the Formatting toolbar and select a font size in the drop-down list, or use the Font Size box in the Character panel of the Properties deck on the Sidebar.
4) To change the character format, click on the Bold, Italic, or Underline icons on the Formatting toolbar or on the Character panel of the Properties deck on the Sidebar. On the Sidebar it is possible to change the underline appearance and add some extra effects to the font, such as Strikethrough and Shadow.
5) To change the horizontal paragraph alignment, click on one of the four alignment icons (Align Left, Align Center, Align Right, Justified) on the Formatting toolbar or on the Alignment panel of the Properties deck on the Sidebar. For more options, go to Format > Cells > Alignment and select one of the options in the Horizontal drop-down list.
6) To change the vertical alignment of the text in the cell, go to Format > Cells > Alignment and select one of the options in the Vertical drop-down list.
7) To change the font color, click the arrow next to the Font Color icon on the Formatting toolbar, or on the Character panel on the Properties deck of the Sidebar, to display the color palette, then select the desired color.
8) To specify the language used in the cell, use the Font tab on the Format Cells dialog.
9) Use the Font Effects tab on the Format Cells dialog to set other font characteristics.
**Formatting cell borders**

To format the borders of a cell or a group of selected cells, click the Borders icon on the Formatting toolbar and select a border from the palette.

To format the border line style, click the Border Style icon on the Formatting toolbar and select the line style in the palette. For the color of the border lines, click the arrow at the right of the Border Color icon on the Formatting toolbar and choose from the selected color palette.

The Cell Appearance panel of the Properties deck on the Sidebar also contains cell border, line style and line color controls.

For more control, including the spacing between cell borders and any data in the cell, use the Borders tab of the Format Cells dialog, where you can also define a shadow style. Clicking the More Options button on the Cell Appearance panel, or clicking More Options in the panel's line style drop-down list, opens the Format Cells dialog at the Borders tab.

See Chapter 4, Using Styles and Templates, in the Calc Guide for more information.

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**Note**

Cell border properties apply only to the selected cells and can be changed only when 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. The Cell Appearance panel of the Properties deck on the Sidebar contains a cell background control with a color palette. See Chapter 4, Using Styles and Templates, in the Calc Guide for more information.

**Formatting default cell styles**

To add default styles for a cell or a group of cells, click Styles on the Menu bar and a menu displays the default styles. The default styles can be applied, or modified through the Styles deck on the Sidebar. You can create custom cell styles by clicking Styles > New Style from Selection on the Menu bar, or by pressing the New Style from Selection icon on the Styles deck of the Sidebar. Type a new name for the style or click an existing style name to update that style. Apply, delete, or modify the custom style on the Styles deck.

**AutoFormatting of cells**

**Using AutoFormat**

You can use Calc's AutoFormat feature to format a table (range of cells) quickly and easily. It also lets you format different tables of the sheet with the same look and feel very easily. All formatting applied is direct formatting.

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 Styles on the Menu bar to open the AutoFormat dialog (Figure 115).

3) Select the type of format and format color in the list.
4) Select the formatting properties to be included in the AutoFormat style.
5) Click **OK**.

![AutoFormat dialog](image)

**Figure 115: 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 range of cells.
2) Select the range, of at least 4 x 4 cells.
3) Go to **Format > AutoFormat Styles** to open the AutoFormat dialog. Click **Add**.
4) In the **Name** box of the Add AutoFormat dialog that opens, type a meaningful name for the new format.
5) Click **OK** to save. The new AutoFormat is now available in the **Format** list in the AutoFormat dialog.

**Note**

The new AutoFormat is stored in your computer user profile and is not available to other users. However, other users can import the new AutoFormat by selecting the table range in the spreadsheet document and defining it as a new AutoFormat.

### Using themes

Calc comes with a predefined set of formatting themes (set of styles) that you can apply to spreadsheets. It is not possible to add new themes to Calc, but you can modify the theme styles after the theme is applied to the spreadsheet. The modified styles are available for use only in that spreadsheet.

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To apply a theme to a spreadsheet:

1) Go to Format > Spreadsheet Theme on the Menu bar or click the Spreadsheet Theme icon on the Tools toolbar to open the Theme Selection dialog (Figure 116).

2) Select the theme that you want to apply. The theme styles are immediately visible on the underlying spreadsheet.

3) Click OK.

If you wish, you can now open the Styles deck on the Sidebar to modify specific styles. These changes do not modify the theme; they only change the appearance of the style in the specific spreadsheet you are using. For more about modifying styles, see Chapter 3, Using Styles and Templates.

**Caution**

Applying a new theme over an existing one will override all existing theme styles customization with the new theme styles.

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. Multiple formatting options can be entered and arranged using assigned priority rules to order the importance of the conditions, allowing certain formatting options to take place before others.

Conditional formatting depends upon the use of styles, and the AutoCalculate feature (Data > Calculate > AutoCalculate) must be enabled. See Chapter 2, Entering, Editing, and Formatting Data, in the Calc Guide for details.
Filtering data

A filter is a list of conditions that each entry has to meet to be displayed. Calc provides three types of filter:

- **Standard** – Specifies the logical conditions to filter the data.
- **AutoFilter** – Filters data according to a specific value or string. Automatically filters the selected cell range and adds list boxes to the top row, where you can choose the items that you want to display.
- **Advanced** – Uses filter criteria from specified cells.

Setting up and using filters are explained in Chapter 2, Entering, Editing, and Formatting Data, of the *Calc Guide*.

Cell protection

All or some of the cells in a spreadsheet can be password protected to prevent changes being made by unauthorized users. This can be useful when multiple people have access to the spreadsheet itself, but only a few are allowed to modify the data it contains. Protected cells can optionally be hidden.

Use the *Cell Protection* tab of the Format Cells dialog (Figure 117) to set up cell protection and toggle the hidden status of protected cells.

![Figure 117: Cell Protection tab in Format Cells dialog](image)

When all desired cells have been flagged with either a protected or unprotected status:

1. Go to **Tools > Protect Sheet**, or right-click on the sheet’s tab in the Sheet tabs area and select **Protect Sheet** in the context menu. The Protect Sheet dialog will open (Figure 118).
2. Select **Protect this sheet and the contents of protected cells**.
3. Type a password and then confirm the password.
4. Select or deselect the user selection options for cells.
5. Click **OK**.
Any cells that had been toggled as protected will no longer be editable by anyone that does not have the password.

![Protect Sheet dialog](image)

Figure 118: Protect Sheet dialog

The protected sheet has a lock icon in its tab, as shown in Figure 119.

![The lock icon in a protected sheet](image)

Figure 119: The lock icon in a protected sheet

Alternatively, you can protect the structure of the entire spreadsheet rather than individual cells on individual sheets by selecting **Tools > Protect Spreadsheet Structure** on the Menu bar. This option enables you to protect your spreadsheet against adding, deleting, moving, or renaming sheets. You can optionally enter a password on the Protect Spreadsheet Structure dialog.

## 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 can then sort the records to update the spreadsheet.

For more information on how to sort records and the sorting options available, see Chapter 2, Entering, Editing, and Formatting Data, in the *Calc Guide*.

To sort cells in a spreadsheet using the Sort dialog:

1) Select the cells to be sorted.

2) Go to **Data > Sort** on the Menu bar, or click the **Sort** icon on the Standard toolbar, to open the Sort dialog (Figure 120).
3) On the Sort Criteria tab, 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, 0-9) or descending order (Z-A, 9-0).

5) Adjust the settings as required on the Options tab. For details, see the Help or Chapter 2, Entering, Editing, and Formatting Data, of the Calc Guide.

6) Click OK and the sort is carried out on the spreadsheet.

Figure 120: Sort dialog, Sort Criteria tab

Cell comments

Comments are small notes and text that can serve as a reminder or an aside to the user. A comment is not considered a part of the spreadsheet for calculation or printing purposes, and will only appear when hovering the mouse over the particular cell that has been commented.

The easiest way to insert a comment is by right-clicking on the desired cell and selecting Insert Comment in the context menu. Alternatively, you can select Insert > Comment on the Menu bar, or use Ctrl+Alt+C, or click the Insert Comment icon on the Standard toolbar.

By default, comments will remain hidden and only appear when hovering the mouse. Cells that contain comments are marked with a red square in the upper right corner. To toggle the visibility of comments, select View > Comments on the Menu bar.

For more information, see Chapter 11, Sharing and Reviewing Spreadsheets, in the Calc Guide.

Using formulas and functions

You may need more than numbers and text in a 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 by 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 made automatically. Functions help you create the formulas required to get the results that you are looking for.

Creating formulas

Functions and formulas can be entered directly into the Formula bar or by accessing the Function Wizard. To launch the function wizard, click the Function Wizard icon to the right of the Name Box, or select Insert > Function on the Menu bar, or press Ctrl+F2.
Inside the Function Wizard, you can search, list, and narrow down the many Calc functions available. You can also choose to complete functions from within the wizard rather than having to type full formulas into the Formula bar.

Each function, when selected, will display a brief explanation of its use and acceptable syntax. It will also display dialog boxes where you can enter the information required by that function and a result window showing the expected calculation from the data entered.

**Note**

A fast alternative to the Function Wizard is the Functions deck on the Sidebar, where you can quickly list and narrow down functions. It provides brief explanations on their use and syntax, but does not provide the search or data entry capabilities of the full wizard.

For a more in-depth introduction to formulas and the Function Wizard, see Chapter 7, Using Formulas and Functions, in the **Calc Guide**.

---

**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.

Calc also includes many tools for statistical analysis of data, where you can obtain important numerical information on data obtained from physical measurements, polls, or even business transactions such as sales, stock quotations, and so on. These statistical data analyses are available in the menu **Data > Statistics**.
See Chapter 9, Data Analysis, in the *Calc Guide* for more information on the tools available in Calc to analyze data.

**Pivot tables and pivot charts**

One of the most useful tools for analyzing data is the pivot table, a way to organize, manipulate, and summarize large amounts of data to make it much easier to read and understand while also allowing you to answer different questions about a spreadsheet by rearranging – or pivoting – the data in it. Using a pivot table, you can view different summaries of the source data, display the details of areas of interest, and create reports. You can also create a pivot chart to view a graphical representation of the data in a pivot table.

For example, you might have a spreadsheet containing a list of donations to various charities by a group of recruiters in various months, but you are only interested in how much money each recruiter has collected in total. You could manually calculate that amount by using the sorting and formatting options provided by Calc. Alternatively, you could arrange a pivot table to make that data easier to organize and read.

To create a pivot table, choose **Data > Pivot Table > Insert or Edit** on the Menu bar, or click the **Insert or Edit Pivot Table** icon on the Standard toolbar. The Pivot Table Layout dialog will intelligently guess the column headings from the provided raw data and insert them into the **Available Fields** selection box. From there, you can drag and drop your desired information into column, row, data, or filter fields to organize accordingly and click **OK** to view the results.

To choose new information to display, or to alter the layout of the existing information, right-click anywhere in the existing pivot table to bring up the context menu and choose **Properties**. You can also access the same dialog by selecting **Data > Pivot Table > Insert or Edit** on the Menu bar, or clicking the **Insert or Edit Pivot Table** icon on the Standard toolbar.

For an in-depth explanation of pivot tables and the preconditions necessary to use them, see Chapter 8, Using Pivot Tables, in the *Calc Guide*.

**Pivot charts**

To get a quick visual representation of the data contained in a pivot table, you can generate a pivot chart. Functionally, pivot charts are nearly identical to regular charts except in two key areas. First, as the data in the pivot table is altered, the pivot chart will adjust itself automatically. Second, it includes field buttons, graphical elements that allow you to filter the content of the pivot table from within the pivot chart itself.

For more information on pivot charts and charts in general, see Chapter 3, Creating Charts and Graphs, and Chapter 8, Using Pivot Tables, in the *Calc Guide*.

**Printing**

Printing from Calc is much the same as printing from other LibreOffice components (see Chapter 10, Printing, Exporting, E-mailing, and Signing Documents). However, some details of printing in Calc are different, especially regarding preparation for printing.

After print ranges have been defined, they are formatted with automatic page breaks. To view the page breaks, go to **View > Page Break** on the Menu bar.

**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 Chapter 6, Printing, Exporting, Emailing, and Signing in the *Calc Guide*.  

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**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. Automatic page break lines are displayed on screen.
3) To check the print range, go to **File > Print Preview** on the Menu bar, press Ctrl+Shift+O, or click the **Toggle Print Preview** icon on the Standard toolbar. Calc will display only 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 > Print Preview** on the Menu bar, press Ctrl+Shift+O, or click the **Toggle Print Preview** icon on the Standard toolbar. 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 > Clear** 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 122).
2) Select the **Sheet** tab and make your selections from the available options. Click **OK**.
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 the Menu bar to open the Edit Print Ranges dialog (Figure 123).
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 -.
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 Chapter 6, Printing, Exporting, E-mailing, and Signing, in the Calc Guide.
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 the data prints properly according to the 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.

Inserting a break
To insert a page break:
1) Navigate to the cell where the page break will begin.
2) Go to Sheet > Insert Page Break on the Menu bar.
3) Select Row Break to create a page break above the selected cell. Select Column Break to create a page break to the left of the selected cell.

Deleting a break
To remove a page break:
1) Navigate to a cell that is next to the break you want to remove.
2) Go to Sheet > Delete Page Break on the Menu bar.
3) Select Row Break or Column Break as needed.

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.

For more information on manual breaks, see Chapter 6, Printing, Exporting, E-mailing, and Signing, in the Calc Guide.

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 Chapter 6, Printing, Exporting, E-mailing, and Signing, in the Calc Guide.

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 in Calc, see Chapter 4, Using Styles and Templates, in the Calc Guide.

Setting a header or footer
To set a header or footer:
1) Select 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 124) and select the Header or Footer tab (Figure 124).
3) Select the Header on or Footer on option.
4) Select Same content on left and right pages if you want the same header or footer to appear on all the printed pages.
5) Set the margins, spacing, and height for the header or footer. You can also select AutoFit height to automatically adjust the height of the header or footer.
6) To change the appearance of the header or footer, click on More to open the Border / Background dialog.

7) To set the contents, for example page number, date and so on, that appear in the header or footer, click Edit to open the Header (or Footer) dialog.

Figure 124: Header tab of Page Style dialog
Getting Started Guide

Chapter 6
Getting Started with Impress

Presentations in LibreOffice
What is Impress?

Impress is the presentation (slide show) program included in LibreOffice. Impress creates presentations in the ODP format, which can be opened by other presentation software or can be exported in different presentation formats.

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, and styles for drawings, text, and backgrounds.

This chapter introduces some features of Impress and does not attempt to cover all of the features available in Impress that can be used to create presentations. See the Impress Guide and LibreOffice Help for more information.

To use Impress for more than very simple slide shows requires some knowledge of the elements which the slides contain. Slides that contain text use styles to determine the appearance of that text. Creating drawings in Impress is similar to the Draw component of LibreOffice. For more information, refer to Chapter 3, Using Styles and Templates, and Chapter 7, Getting Started with Draw, in this guide. It is recommended to consult the Draw Guide for more details on how to use the drawing tools.

Starting Impress

Start Impress using any of the methods described in Chapter 1, Introducing LibreOffice. The main Impress window opens and, by default, the Select a Template dialog (Figure 125) is displayed.

![Select a Template dialog](image-url)

*Figure 125: Select a Template dialog*
Templates included with Impress are designed to fit the two standard sizes of presentation slides: 4:3 and 16:9 ratios. However, templates will adapt to other available sizes, which can be selected by going to **Slide > Properties > Paper Format** on the Menu bar or **Format** in the Slide panel in the Properties deck on the Sidebar.

**Tip**

To start Impress without the Select a Template dialog, deselect *Show this dialog at startup* in the lower left of the dialog.

In Windows or Linux, go to **Tools > Options > LibreOffice Impress > General** on the Menu bar and deselect *Start with Template Selection* under *New Document*.

In macOS, go to **LibreOffice > Preferences > LibreOffice Impress > General** on the Menu bar and deselect *Start with Template Selection* under *New Document*.

### Main Impress window

The main Impress window (Figure 126) has three main sections: Slides pane, Workspace, and Sidebar. At the top is the Menu bar and toolbars. Toolbars can be displayed, hidden, locked in position, or floating during the creation of a presentation.

**Tip**

You can close the Slides pane or Sidebar by clicking the X in the upper right corner of each pane or go to **View > Slides Pane** or **View > Sidebar** on the Menu bar to deselect the pane. To reopen a pane, select **View > Slides Pane** or **View > Sidebar** on the Menu bar.

![Figure 126: Impress main window](image)
Tip

To maximize the Workspace area, click on the **Hide/Show** marker in the middle of the vertical separator line (highlighted in Figure 126). Using the **Hide/Show** marker hides, but does not close, the Slides pane or Sidebar. To restore a pane, click again on its **Hide/Show** marker.

Menu bar

The Impress Menu bar, at the top of the main window, provides several menus common to all LibreOffice modules. In each LibreOffice module, the commands may differ for File, Edit, View, Insert, Format, Tools, Window, and Help. Impress has two extra menus for Slide and Slide Show. When a menu item is selected, a submenu drops down to show commands. The Menu bar can be customized; see Chapter 14, Customizing LibreOffice.

Workspace

The Workspace (normally the center of the main window) opens in Normal view. It has four standard views of Normal, Outline, Notes, and Slide Sorter. These views are selected using tabs at the top of the Workspace. For more information, see "Workspace views" on page 174.

Slides pane

The Slides pane contains thumbnail images of slides in a presentation in the order in which the slides are shown. Clicking on a slide image in the Slides pane selects it and places the slide in the Workspace where you can make changes to the displayed slide.

- To display or close the Slides pane, go to **View > Slides Pane** on the Menu bar.
- To close the Slides pane, click on the X in the right top corner of the Slides Pane.
- To display or hide the Slides pane, use the **Hide/Show** marker on the left of the Workspace.

You can carry out several additional operations on one or more slides in the Slides pane. These additional operations are available from a context menu when you right-click in the Slides pane.

- Add new slides to a presentation.
- Hide a slide so that it will not show in a presentation.
- Delete a slide from a presentation.
- Rename a slide.
- Duplicate a slide (copy and paste).
- Move a slide to another position in the slide order by dragging and dropping it to the desired position.

You can also carry out 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.
- Change the sequence of slides in the presentation.
- Change the slide design.
- Change slide layout for a group of slides simultaneously.
Sidebar
The Impress Sidebar, normally located on the right side of the Workspace, is similar to the Sidebar in the other LibreOffice modules. It consists of seven decks, as described below. To open a deck, use one of the following methods:

- Click on its icon on the right side of the Sidebar.
- Click on Sidebar Settings at the top of the Sidebar and select a deck from the drop-down list.
- Go to View on the Menu bar and select the deck required from the drop-down menu.

Properties
The Properties deck has nine panels, allowing you to change the slide layout and format any objects on a slide.

- When a slide is selected and appears in the Workspace, the Properties deck opens with the Slide and Layouts panels available.
- When an object on a slide is selected, the Properties deck has the following panels available: Character, Paragraph, Area, Lists, Shadow, Line, and Position and Size.

Slide transition
The Slide Transition deck provides a selection of slide transitions available in Impress, transition speed, automatic or manual transition, and how long a selected slide is shown (automatic transition only). See “Slide transition” on page 206.

Animation
The Animation deck provides an easy way to add, change, or remove animations to different elements or objects on a slide and how they appear during a slide show. See “Animation effects” on page 208.

Master slides
Using the Master Slides deck, you can select the slide design for a presentation. Impress includes several designs of master slides. The default master slide is blank, but the remaining master slides have backgrounds and styled text. See “Working with master slides” on page 192.

Styles
On the Styles deck, you can apply drawing and presentation styles to a selected object, create new styles for drawing and presentation, and modify both types of styles. When you save changes to a style, the changes are applied to all of the elements formatted with that style in the presentation. See “Styles” on page 192.

Gallery
On the Gallery deck, you can insert an object into a 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. See the Impress Guide for more information.

Navigator
The Navigator deck displays all objects contained in a presentation. It provides a convenient way to move between slides in a presentation or select an object on a slide. It is recommended to give slides and objects in a presentation meaningful names so that you can easily identify them when using the Navigator. See the Impress Guide for more information.
Rulers

Rulers are positioned on the upper and left-hand sides of the Workspace. If they are not visible, go to View > Rulers in the Menu bar. The rulers show the size of a selected object on the slide using double lines (highlighted in Figure 127). You can also use the rulers to manage object handles and guide lines when positioning objects.

To change the measurement units of the rulers, right-click on a ruler and select the measurement unit from the drop-down list, as shown in Figure 128 for the horizontal ruler. The horizontal and vertical rulers can be set to different measurement units.

![Figure 127: Rulers showing object size](image)

![Figure 128: Changing ruler units](image)

Note

The sizes are given in the current measurement unit and might not be the same as the ruler units. The measurement unit on the Status bar is defined in Tools > Options > LibreOffice Impress > General.

Status bar

The Status bar (Figure 129), located at the bottom of the Impress window, contains information that may be useful when working on a presentation. Several of the fields are the same as those in other components of LibreOffice. Some Impress-specific fields are described briefly below.

For details on the contents and use of these fields, see Chapter 1, Introducing LibreOffice, in this guide and the Impress Guide. To hide the Status bar, go to View on the Menu bar and deselect Status Bar.
Figure 129: Status bar

Information area
This changes depending on the object selected on the slide. Examples are shown in Table 3.

<table>
<thead>
<tr>
<th>Example selection</th>
<th>Examples of information shown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text area</td>
<td>Text Edit: Paragraph x, Row y, Column z</td>
</tr>
<tr>
<td>Charts, spreadsheets</td>
<td>Embedded object (OLE) “ObjectName” selected</td>
</tr>
<tr>
<td>Graphics</td>
<td>Bitmap with transparency selected</td>
</tr>
</tbody>
</table>

Master slide name
The master slide associated with the slide or notes page currently displayed in the Workspace. Right-click to pop up a list of available master slides and select one to apply it to the selected slide. See “Working with master slides” on page 192 and the Impress Guide.

Cursor position/Object size
Shows different information depending on whether objects are selected or not.
- When no object is selected, the position numbers show the current position (X and Y coordinates) of the mouse cursor.
- When an object is selected and being resized with the mouse, the object size numbers show the size of the object (width and height).
- If an object is selected, the position numbers show X and Y coordinates of the upper-left corner and the object size number pair displays the size of the object. These numbers do not relate to the object itself, but to the selection outline, which is the smallest possible rectangle that can contain the visible parts of the object.
- When an object is selected, clicking in either of these areas opens the Position and Size dialog.

Fit slide
When this icon is clicked on, the slide in the workspace zooms to fit in the Workspace.

Toolbars
Many toolbars can be used during slide creation. To display or hide them, go to View > Toolbars on the Menu bar and select from the submenu. For more information on toolbars and how to use them, see Chapter 1, Introducing LibreOffice, and the Impress Guide.

Note
The icons used on toolbars vary depending on the computer operating system and the selection of icon size and style in Tools > Options > LibreOffice > View.
Workspace views

The Impress workspace has four standard views selected using tabs: Normal, Outline, Notes, and Slide Sorter. These tabs are normally displayed at the top of the Workspace. If the tabs are not displayed, then go to View > Views Tab Bar on the Menu bar. You can also select different workspace views by going to View on the Menu bar and selecting a view from the drop-down menu. Each of the workspace views is designed to ease the completion of certain tasks.

Note

Each workspace view displays a different set of toolbars when selected. To customize these toolbar sets, go to View > Toolbars on the Menu bar, then check or uncheck the toolbars you want to add or remove.

Normal view

Normal view is the main view for creating individual slides in a presentation. In Normal view you can design and add slides, add and format any text or graphics, and add any animation effects to text or graphics.

To place a slide in Normal view of the Workspace, either click on the slide thumbnail in the Slides pane or click on the slide name in the Navigator.

Outline view

Outline view (Figure 130) 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. If you have added text boxes or graphic objects to the slides, then these objects are not displayed. Slide names are not included.

Figure 130: Example of Outline view in Workspace

Figure 131: Outline toolbar
• Use Outline view for the following tasks:
  – Make changes in the text of a slide:
  – Add or delete text in a slide as in Normal view.
  – Move a paragraph in a slide up or down by using the movement arrows on the Outline toolbar (Figure 131).
  – Change the outline level of a paragraph in a slide using the left and right arrow buttons on the Outline toolbar.
• Compare slides with in an outline. If it is noticed in an outline that another slide is required, create it directly in Outline view, or return to Normal view to create it.

Notes view

Use Notes view (Figure 132) to add notes to a slide. These notes are not seen when the presentation is shown to an audience using an external display connected to a computer. Click on the words Click to add Notes and begin typing.

You can resize the Click to add Notes text box using the resizing handles which appear when you click on the border of the box. You can also move or change the size of the box by clicking and dragging on the box border.

When text is inserted in the Click to add Notes text box, it is automatically formatted using the predefined Notes style that is in Presentation Styles in the Styles deck on the Sidebar. You can format the Notes style to suit the presentation. For more information on editing styles, see Chapter 3, Styles and Templates, in this guide and the Impress Guide.

Figure 132: Example of Notes view in Workspace
Slide sorter view

Slide Sorter view (Figure 133) contains all the thumbnails of slides used in a presentation. Use this view to work with one slide or a group of slides.

![Slide Sorter view](image)

*Figure 133: Example of Slide Sorter view in Workspace*

**Customizing Slide Sorter view**

To change the number of slides per row in Slide Sorter view:

1) Go to **View > Toolbars > Slide View** on the Menu bar to show the Slide View toolbar (Figure 134).
2) Adjust the number of slides, up to a maximum of 15, in the *Slides per Row* box.

![Slide View toolbar](image)

*Figure 134: Slide View toolbar*

**Changing slide order**

To change the slide order of one or a group of slides in a presentation using Slide Sorter view:

1) Select a slide or a group of slides.
2) Drag and drop the slide or group of slides at the location required.

**Selecting a group of slides**

To select a group of slides, use one of these methods:

- **Ctrl key** – click on the first slide and, while holding the Ctrl key, select the other slides. The selected slides do not have to be next to each other.
- **Shift key** – click on the first slide, and while holding the Shift key, select the final slide for the group. This selects all of the slides between the first and the last slide selected.
- **Mouse** – position the cursor slightly to one side and outside the first slide, then click and hold the left mouse button and drag the cursor until all of the slides required for the group are selected.
Working in Slide Sorter view

Working with slides in Slide Sorter view is the same as working in the Slides pane. To make changes, right-click on a slide and choose an option in the context menu:

- **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.
- **New Slide** – adds a new slide after the selected slide.
- **Duplicate Slide** – creates a duplicate of the selected slide and places the new slide immediately after the selected slide.
- **Rename Slide** – renames the selected slide.
- **Hide Slide** – any slides that are hidden are not shown in the slide show.
- **Delete Slide** – deletes the selected slide.
- **Layout** – allows changes to the layout of the selected slide.
- **Move** – allows moving or repositioning the slide in the presentation order.

Creating presentations

New presentation

When you create a new presentation, Impress shows only one slide in the Slides pane and Workspace.

By default, Impress opens with the Select a Template dialog (Figure 125 on page 168) displayed where you can select a template to use in the presentation. To create a new presentation without using a template, click **Cancel** in the Select a Template dialog and a blank slide appears in the Workspace and Slides pane.

Inserting new slide

To insert a new slide into a presentation, use one of the following methods.

- Go to **Slide > New Slide** on the Menu bar.
- Right-click in the Slides pane and select **New Slide** in the context menu.
- Use the keyboard shortcut Ctrl+M.
- Go to Slide Sorter view in the Workspace, right-click on a slide and select **New Slide** in the context menu.
- Click on **New Slide** in the Presentation toolbar (Figure 135). If the Presentation toolbar is not visible, go to **View > Toolbars** on the Menu bar and select **Presentation** in the drop-down list.

![Presentation toolbar](image.png)

Figure 135: Presentation toolbar

**Note**

A new slide is inserted after the selected slide in the presentation. If a slide is not selected, then the new slide is inserted as the last slide in the presentation.
Duplicate slide
To duplicate a slide, select a slide for duplication in the Slides pane and use one of the following methods. A duplicate slide is inserted after the selected slide in the presentation.

- Right-click on a slide in the Slides pane and select **Duplicate Slide** in the context menu.
- Go to Slide Sorter view in the Workspace, right-click on a slide and select **Duplicate Slide** in the context menu.
- Go to **Slide > Duplicate Slide** on the Menu bar.
- Click on the **Duplicate Slide** icon on the Presentation toolbar.

Slide layout
By default in Impress, the **Title Slide** layout is used for the first slide when a new presentation is created. The layouts included in Impress range from a blank slide to a slide with six contents boxes and a title. You can use either a blank layout or one of the title layouts as a title slide. For more information on slide layouts and slide contents, see the **Impress Guide**.

Selecting slide layout
The available layouts are shown in the **Layouts** panel in the Properties deck on the Sidebar. After selecting a slide, you can select the slide layout using one of the following methods:

- Go to the Properties deck on the Sidebar to open the **Layouts** panel (Figure 136).
- Click on **Slide Layout** on the Presentation toolbar to open the **Layouts** panel on the Properties deck on the Sidebar.
- Click on **Slide > Layout** on the Menu bar to open a drop-down list showing the layouts by name.
- Right-click on the selected slide and select **Layouts** from the context menu.

**Tip**
To view the names for slide layouts, position the cursor on a layout in the **Layouts** panel in the Properties deck on the Sidebar; its name is displayed in a tooltip.

![Figure 136: Layouts panel in the Properties deck on the Sidebar](image-url)
**Changing slide layout**

Change the slide layout for a slide in a presentation as follows:

1) Select a slide in the presentation.
2) Select a new layout for the slide using one of the methods described in “Slide layout” on page 178.

---

**Note**

Text and graphic elements can be readjusted at any time during the preparation of a presentation, but changing the layout of a slide that already has contents can have a dramatic effect. It is recommended that to pay particular attention to the layout being selected before making a selection. If the layout is changed after contents have been added, the contents are not lost, but they may need to be reformatted.

---

**Modifying slide elements**

When a slide is inserted into a presentation, it contains elements that were included in the selected slide layout. However, it is unlikely that predefined layouts will suit all requirements for a presentation. You may want to remove elements that are not required or add objects such as text or graphics.

Impress does not have functionality to create custom layouts. However, different elements can be resized and moved in a slide layout to suit the requirements for a slide layout. It is also possible to add slide elements without being limited to the size and position of content boxes.

---

**Note**

It is recommended that changes to slide elements in the layouts included in Impress are only made using Normal view, which is the default. Attempting any changes to a slide element when in Master view is possible, but may produce unpredictable results and requires extra care as well as a certain amount of trial and error.

---

**Moving contents box**

1) Click on the outer frame of the contents box so that the selection handles are displayed.
2) Place the mouse cursor on the frame so the cursor changes shape. This is normally a clenched hand, but depends on the computer setup.
3) Click the left mouse button and drag the contents box to its new position on the slide, then release the mouse button.

---

**Resizing contents box**

1) Click on the outer frame of the contents box so that the selection handles are displayed.
2) Place the mouse cursor on a selection handle of the frame so the cursor changes shape.
3) Click the left mouse button and drag the selection handle on the frame to resize the contents box, then release the mouse button.
   - Top and bottom selection handles change the height of a contents box.
   - Left and right selection handles change the width of a contents box.
   - Corner selection handles change width and height of a contents box.

---

**Removing elements**

1) Click a contents box or an element to highlight it and the selection handles are displayed.
2) Press the *Delete* or *Backspace* key to remove the contents box or element.
Adding text

To add text to a slide that contains a text frame, click on **Click to add text** in the text frame and type the text required. Impress outline styles are automatically applied to the text as it is inserted. You can change the outline level of each paragraph as well as its position within the text by using the arrow buttons on the Outline toolbar (see “Outline view” on page 174), or position the cursor at the beginning of a paragraph and press the **Tab** key. For more information, see “Adding and formatting text” on page 181 and the *Impress Guide*.

Adding images or objects

To add images or objects to a slide, for example a picture, clipart, drawing, photograph, or spreadsheet, click on **Insert** on the Menu bar and select from the drop-down menu the image or object type required. See “Inserting images, tables, charts, or media” on page 187 and the *Impress Guide*.

Modifying slide appearance

To change the background and other characteristics of all slides in the presentation, you need to modify the master slide or choose a different master slide, as explained in “Working with master slides” on page 192.

A master slide has 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.

Impress has a range of master slides, which are found in the Master Slides deck on the Sidebar. You can also create and save additional master slides or import more from other sources. See the *Impress Guide* for more information.

To change only a slide background, you can use a shortcut:

1) Select a slide in Normal or Slide Sorter view on the Workspace.
2) Go to Slide > Slide Properties on the Menu bar to open the Slide Properties dialog (Figure 137).

![Slide Properties dialog - Background page](image)

*Figure 137: Slide Properties dialog - Background page*
3) Click on the Background tab.
4) Select the desired background from **Color**, **Gradient**, **Bitmap**, **Pattern**, or **Hatch**.
5) Click **OK** to save the change and close the dialog.

For more information on inserting, formatting, and changing a background, see the *Impress Guide* or *Draw Guide*.

**Adding and formatting text**

Most of the slides in a presentation 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*.

Two types of text boxes (AutoLayout text box and text box) are available in Impress for use on slides. Both types of text boxes can be moved, resized, and deleted.

- Choose a predefined layout from the **Layouts** panel in the Properties deck on the Sidebar and do not select any special content type. These text boxes are called AutoLayout text boxes.
- Use the **Insert Text Box** tool on the Standard toolbar, Drawing toolbar, or Text toolbar (Figure 138) to create text boxes on a slide.
- Use the keyboard shortcut **F2** to create text boxes on a slide (Windows and Linux only).

![Figure 138: Text toolbar](image)

When adding and formatting text, the Text Formatting toolbar (Figure 139) normally opens, automatically providing a range of tools to add and format text.

![Figure 139: Text Formatting toolbar](image)

**Note**

If the toolbars are not visible, go to **View > Toolbars** on the Menu bar and select the required toolbars from the drop-down list.

**AutoLayout text boxes**

1) Make sure Normal view is selected in the Workspace.
2) Select the slide where text is to be added into an AutoLayout text box.
3) Click in the AutoLayout text box and start typing the text. An AutoLayout text box is indicated by the text **Click to add Title** or **Click to add text**.
Text boxes

1) Make sure Normal view is selected in the Workspace.
2) Select the slide where the text is to be added.
3) On the selected slide, create a text box in edit mode using one of the following methods:
   – **Insert Text Box** (Windows, Linux and macOS): select **Insert Text Box**, click on the slide and then type or paste the text to create a single line text box. The width of a single line text box increases as text is added.
   – Keyboard shortcut F2 (Windows and Linux only): press F2, click on the slide and then type or paste the text to create a single line text box.
   – **Insert Text Box**, or keyboard shortcut F2 (Windows, Linux and macOS): click on the slide and drag to the approximate width required for the text box, then type or paste the text to create a multiple line text box. The width of the text box is fixed and the height of the text box increases automatically as text is added creating multiple lines.
4) Release the mouse button and the cursor appears in the text box, which is now in edit mode and indicated by a colored border (Figure 140). The width and final position of the text box can be adjusted after adding text into the text box.
5) Click outside the text box to deselect it.

![Figure 140: Example of a text box in edit mode](image)

**Note**

You can create multiple lines of text in a single-line text box by pressing Enter to create a new paragraph, or use Shift+Enter to create a line break in the text.

Vertical text

In addition to normal text boxes where text is horizontally aligned, it is possible to insert text boxes where the text is vertically aligned. Vertical text is available only when Asian languages are enabled in Tools > Options > Language Settings > Languages.

Creating vertical text boxes is similar to creating horizontal text boxes. Use the **Insert Vertical Text** tool on the Standard, Drawing, or Text toolbars to create a vertical text box with single or multiple lines. The height of the text box is fixed and the width of a vertical text box increases automatically as text is added to a multi-line text box.

Quick font resizing

You can quickly increase or decrease the font size of selected text by using the tools **Increase Font Size** (Ctrl+I) and **Decrease Font Size** (Ctrl+I) on the Text Formatting toolbar. The amount by which the font size changes depends on the standard sizes available for the font in use.
AutoLayout text boxes automatically adjust font size of any text inserted into the AutoLayout text box. For example, if a long piece of text is inserted into an AutoLayout text box, the font size may decrease in size to fit into the box.

Pasting text

You can add text to an AutoLayout or normal text box by copying it from another document and pasting it into Impress. However, the formatting of the pasted text will probably not match the formatting of the surrounding text or that of the other slides in the presentation. This may be what you want on some occasions. However, to make sure that the presentation style is consistent and does not become a patchwork of different styles, font types, bullet points, and so on, you should format the text to match the rest of the presentation.

Unformatted text

It is good practice to paste text without formatting and apply the formatting later.

1) Highlight and copy the text from another document or slide.
2) Create a text box on a slide and make sure the text cursor is flashing in the text box. See “Text boxes” on page 182 and the Impress Guide for more information.

Alternatively, select an AutoLayout text box on your slide. See “AutoLayout text boxes” on page 181 and the Impress Guide for more information.

3) Paste unformatted text into the text box using one of the following methods:
   – Go to Edit > Paste Special > Paste Unformatted Text on the Menu bar.
   – Click on the small downward arrow ▼ to the right of the Paste tool on the Standard toolbar and select Unformatted Text from the context menu.
   – Use the keyboard shortcut Ctrl+Shift+V and select Unformatted text from the dialog that opens.

Text is pasted at the cursor position in the text box formatted using the Default Drawing Style or Presentation Style if text was pasted into an AutoLayout text box.

4) Format the text to the presentation requirements using the tools on the Text Formatting toolbar or the options in Format on the Menu bar.

AutoLayout text box formatting of pasted text

If you are pasting 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) Highlight and copy the text from another document or slide.
2) Paste formatted text into the AutoLayout text box.
3) Select the pasted text.
4) Select Format > Clear Direct Formatting on the Menu bar to make sure any formatting is removed from the pasted text.
5) Use the four arrow buttons on the Outline toolbar 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). You can get the same result by placing the cursor at the beginning of the paragraph and pressing the Shift+Tab keys.
   - Right arrow demotes a list entry by one level. You can get the same result by placing the cursor at the beginning of the paragraph and pressing the Tab key.
   - Up arrow moves a list entry up in the list order.
   - Down arrow moves a list entry down in the list order.

6) If necessary, modify the presentation style to format the text to the presentation requirements to change font attributes, tabs, and so on. See the *Impress Guide* for more information. Alternatively, apply any necessary manual or direct formatting to the text.

**Text box formatting of pasted text**

Pasting formatted text into a text box overwrites any formatting and replaces the text box style.

1) Highlight and copy the text from another document or slide.

2) If necessary, create a text box on a slide and make sure the text cursor is flashing in the text box. See “Text boxes” on page 182 and the *Impress Guide* for more information.

3) Paste formatted text into the text box. Text is pasted at the cursor position in the text box and the text formatting of the pasted text overwrites any style formatting of the text box.

4) Select **Format > Clear Direct Formatting** on the Menu bar to make sure any formatting is removed from the pasted text.

5) Select the required drawing style to format the text from the available drawing styles.

6) If necessary, modify a drawing style or create a new drawing style to format the text to the presentation requirements. See the *Impress Guide* for more information.

**Note**

You can create drawing styles in Impress. These drawing styles are only available for the Impress presentation in which you have created and saved them. You can also create templates that include any drawing styles required. For more information, see the *Impress Guide*.

**Creating bulleted and numbered lists**

The procedure to create a bulleted or numbered list is slightly 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 use bulleted lists.
- For normal text boxes, an additional step is required to create a bulleted list.

In both cases, you can create numbered lists or change bulleted lists to numbered lists. Methods for changing the appearance of a list are explained in “Changing list appearance” on page 186.

**AutoLayout text boxes**

In AutoLayout text boxes, the outline styles available are formatted as bulleted lists. An example of these outline styles is shown in Figure 141. These outline styles are presentation styles and cannot be deleted, but they can be modified or updated to the presentation requirements. See the *Impress Guide* for more information.
Create a slide using an AutoLayout text box with a bulleted list as follows:

1) Go to **View > Normal** on the Menu bar to open Normal view.
2) Select a layout for the slide using one of the following methods:
   - Right-click in a blank area on the slide and select a layout from the context menu.
   - Go to **Slide > Layout** on the Menu bar and select a layout from the drop-down list.
   - Select a layout in the **Layouts** panel in the Properties deck on the Sidebar.
3) Click on the text ● **Click to add Text** and start typing the first list item.
4) Press **Enter** when finished typing and the first list point is created as a new list point.

**Tip**

Use the keyboard combination *Shift+Enter* to start a new line without creating a new list point. This new line has the same indentation as the text in the list point. To switch off bullets altogether, click on **Toggle Bulleted List** on the Text Formatting toolbar (Figure 139 on page 181).

**Changing outline level**

In AutoLayout text boxes, change the outline level as follows:

1) To demote the outline level of a list point, use one of the following methods:
   - Press the **Tab** key.
   - Click on **Demote** on the Outline toolbar.
   - Click on **Demote** on the **Lists** panel in the Properties deck on the Sidebar.
   - Go to **Format > Lists** on the Menu bar and select **Demote** from the submenu.
2) To promote the outline level of a list point, use one of the following methods:
   - Use the keyboard shortcut **Shift+Tab**.
   - Click on **Promote** on the Outline toolbar.
   - Click on **Promote** on the **Lists** panel in the Properties deck on the Sidebar.
   - Go to **Format > Lists** on the Menu bar and select **Promote** from the submenu.
3) To move a list point lower or higher in the list order without changing the outline level, use one of the following methods:

- Click on Move Down or Move Up on the Outline toolbar.
- Click on Move Down on the Lists panel in the Properties deck on the Sidebar.
- Go to Format > Lists on the Menu bar and select Move Down or Move Up from the submenu.

**Note**

In 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.

**Text boxes**

Create a bulleted or numbered list in a text box as follows:

1) Create a text box on a slide and make sure the cursor is flashing in the text box. See “Text boxes” on page 182 on how to create a text box.

2) Create a list using one of the following methods:

- Click on Toggle Bulleted List or Toggle Numbered List in the Text Formatting toolbar.
- Click on Toggle Bulleted List or Toggle Numbered List in the Lists panel in the Properties deck on the Sidebar.
- Go to Format > Lists on the Menu bar and select Bullet List or Numbered List from the submenu.

3) Type the text and press Enter to start a new list point or use the keyboard combination Shift+Enter to start a new line without creating a new list point. The new line will have the same indentation as the list point.

4) To increase or decrease the indent level of a list point, or move a list point up or down, see “Changing outline level” on page 185.

**Changing list appearance**

The list appearance can be changed for a bullet or numbered type for the entire list or for only a single point.

1) Select a single point in a list, or select the entire list or click on the border of the text box so that the resizing handles are displayed to select the entire list.

2) Change the list type from bullet to number, or number to bullet as described in “Text boxes”.

3) If required, change the type of bullet or number used for the list:

a) Click on the down-pointing triangle ▼ to the right of the Toggle Bulleted List or Toggle Numbered List on the Text Formatting toolbar or the Lists panel in the Properties deck on the Sidebar.

b) Select a bullet or number type from the options available in the drop-down window as shown in Figure 142.

c) If necessary, click on More Bullets or More Numbering in the drop-down window to open the Bullets and Numbering dialog for further options to change the list appearance. See the Impress Guide for more information.
Note

The Bullets and Numbering dialog can also be opened by going to Format > Bullets and Numbering on the Menu bar, or by right-clicking on a list point and selecting Bullets and Numbering from the context menu.

![Figure 142: Bullets and Numbering list options](image)

Note

If the list was created in an AutoLayout text box, then an alternative way to change the list appearance is to modify the Outline styles. Changes made to an Outline style apply to all the slides that use that style. For details, see the Impress Guide.

Inserting images, tables, charts, or media

A contents box on a slide can contain images, tables, charts, or media as well as text. The Insert toolbar (Figure 143) provides quick access to relevant tools. This section provides an overview of how to work with these objects. For more information, see the Impress Guide.

![Figure 143: Insert toolbar](image)

Inserting images

1) Open the slide in Normal view on the Workspace where you want to insert an image.
2) Open the Insert Image file browser using one of the following methods:
   – Go to Insert > Image on the Menu bar.
   – Click on Insert Image on the Insert toolbar (Figure 143).
   – Click on Insert Image on the Standard toolbar.
3) Navigate to the location of the file and select the image file required.
4) Click Open to place the image in the center of the slide.
5) Reposition and resize the image to the presentation requirements.
Inserting tables

When a table is inserted into a slide, the Table toolbar (Figure 144) automatically opens. In Impress, this toolbar 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 a presentation, you have to insert a Calc spreadsheet.

Entering data into table cells is similar to working with text box objects. Click in a cell and begin typing. To move around cells quickly, use the following keyboard options:

- Use 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.

![Figure 144: Table toolbar](image)

Using the Menu bar

1) Open the slide in Normal view on the Workspace where you want to insert a table.
2) Go to Insert > Table on the Menu bar to open the Insert Table dialog (Figure 145).
3) Select the Number of columns and the Number of rows required for your table.
4) Click on OK to place the table in the center of the slide and close the Insert Table dialog.
5) The Table Design panel in the Properties deck on the Sidebar opens (Figure 146). Select a table design, the type of rows, and the type of columns from the options available.
6) If necessary, reposition and format the table on the slide to the presentation requirements.

Using Insert or Standard toolbar

1) Open the slide in Normal view on the Workspace.
2) Click on Table on the Insert toolbar or the Standard toolbar to open the Insert Table grid (Figure 147).
3) Click and drag the cursor to create the number of columns and rows required.
4) Click the mouse button to place the table in the center of the slide and the Insert Table grid closes.
5) The Table Design panel in the Properties deck on the Sidebar opens (Figure 146). Select a table design, the type of rows, and the type of columns from the options available.

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6) If necessary, reposition and format the table on the slide to the presentation requirements.

**Note**

Select *More Options* at the bottom of the Insert Table grid (Figure 147) to open the Insert Table dialog (Figure 145) where you can select the number of rows and columns required.

*Figure 146: Table Design panel in the Properties deck on the Sidebar*

*Figure 147: Insert table grid*
Inserting charts

To insert a chart into a selected slide in Normal view on the Workspace, do one of the following:

- Go to Insert > Chart on the Menu bar.
- Click on Insert Chart on the Insert toolbar.
- Click on Insert Chart on the Standard toolbar.

Impress switches to chart view, the Formatting toolbar (Figure 148) automatically opens, and the Chart Type panel in the Properties deck on the Sidebar opens (Figure 149). To change the chart type, insert the required data, and change the formatting, see the Impress Guide and the Calc Guide.

![Figure 148: Formatting toolbar](image)

![Figure 149: Chart Type panel in the Properties deck on the Sidebar](image)

Inserting audio or video

Using file browser

1) Go to Insert > Audio or Video on the Menu bar, or click on Insert Audio or Video on the Insert toolbar (Figure 143 on page 187) and the Insert Audio or Video file browser opens.

2) Navigate to the folder where the file is located and select the audio or video file you want to insert onto a slide. Only the audio and video files that are compatible with Impress will be highlighted in the file browser.

3) Click Open to place the audio or video file in the center of the slide. The Media Playback toolbar opens while the audio or video file is selected.
4) Reposition and/or resize the audio or video file. See the Impress Guide for more information.

**Using the Gallery**

1) If the Gallery deck (Figure 150) is not already open, use one of the following methods:
   – Go to View > Sidebar on the Menu bar to open the Sidebar, then select Gallery.
   – Go to View > Gallery on the Menu bar.
2) Browse to a category containing media files, for example Sounds.
3) Click on the audio or video file required and drag it onto the slide. The Media Playback toolbar automatically opens.
4) Reposition and/or resize the audio or video file.

![Figure 150: Gallery deck on the Sidebar](image)

**Inserting graphics, spreadsheets, and OLE objects**

**Graphics**

Graphics, such as shapes, callouts, and arrows, 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 on inserting graphics, see Chapter 7, Getting Started with Draw in this guide, the Impress Guide, or the Draw Guide.

**Spreadsheets**

Spreadsheets embedded in Impress include most of the functionality of Calc spreadsheets and are capable of performing complex calculations and data analysis. If you need to analyze the data or apply formulas, these operations are best performed in a Calc spreadsheet and the results displayed in an embedded Calc spreadsheet or in an Impress table. For more information on spreadsheets, see the Impress Guide and the Calc Guide.
**OLE objects**

Object Linking and Embedding (OLE) is a software technology that allows linking and embedding of spreadsheets, charts, drawings, formulas, and text files into an Impress presentation.

The major benefit of using OLE objects is that it provides a quick and easy method of editing the object using tools from the software used to create the object. These file types can all be created using LibreOffice and OLE objects can be created from new or from an existing file.

When you insert a new OLE object into a presentation, it is only available in that presentation and can only be edited using Impress. For more information on inserting and formatting OLE objects, see the *Impress Guide*.

**Working with master slides**

A master slide is a slide that is used as the starting point for other slides. It is similar to a page style in LibreOffice Writer as it controls the basic formatting of all slides based on it. A presentation can have more than one master slide.

A master slide has a defined set of characteristics, including the background color, graphic, or gradient. It also can include objects (for example, logos, decorative lines) in the background; headers and footers; placement and size of text frames; and text formatting.

**Styles**

All of the characteristics of master slides are controlled by styles. The styles of any new slide created are inherited from the master slide from which it was created. In other words, the styles of the master slide are available and applied to all slides created from that master slide.

Changing a style in a master slide results in changes to all the slides based on that master slide. It is possible to modify each individual slide without affecting the master slide.

---

**Note**

It is highly recommended to use the master slides whenever possible. However, there are occasions where manual changes are needed for a particular slide, for example editing an individual slide to enlarge the chart area when the text and chart layout is used.

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Master slides have two types of styles: presentation styles and drawing styles. The presentation styles included with Impress can be modified, but new presentation styles cannot be created or deleted. The drawing styles included with Impress can be modified, but cannot be deleted. However, new drawing styles can be created and these drawing styles can be deleted.

**Master slides**

Impress comes with a collection of master slides, which are shown in the Master Slides deck of the Sidebar (Figure 151).

This deck has three panels: *Used in This Presentation*, *Recently Used*, and *Available for Use*. Click the expand marker on the title bar of a panel to expand it and show thumbnails of the master slides, or click the collapse marker to collapse the panel to hide the thumbnails.

Each of the master slides shown in the *Available for Use* panel is from a template of the same name. These presentation templates are included when LibreOffice is installed on a computer. If you have created your own templates or added templates from other sources, master slides from those templates also appear in this list.
If a new presentation is created without using one of the templates available, then a default master slide is available. This default master slide is a good starting point for creating master slides. An example of the default master slide is shown in Figure 152.

![Default master slide](image)

Figure 152: Default master slide
Creating master slides

1) Go to View > Master Slide on the Menu bar to open Master view in the Workspace. The Master View toolbar also opens (Figure 153). If the Master View toolbar does not open, go to View > Toolbars on the Menu bar and select Master View.

![Master View toolbar](image)

*Figure 153: Master View toolbar*

2) Create a new master slide using one of the following methods. The new master slide appears in the Slides pane:
   - Click on New Master in the Master View toolbar.
   - Right-click on a master slide in the Slides pane and select New Master from the context menu.
   - Go to Slide > New Master on the Menu bar.

3) Rename the new master slide using one of the following methods to open the Rename Slide dialog:
   - Click on Rename Master in the Master View toolbar.
   - Right-click on the new master slide in the Slides Pane and select Rename Master from the context menu.

4) Enter a memorable name for the new master slide, then click OK to save the changes and close the dialog.

5) Make sure the new master slide is selected in the Slides pane and add all the text, graphics and master elements that are required. For more information on adding, editing, formatting and managing the different types of objects on a master slide, see the Impress Guide.

6) When you have finished creating a new master slide, use one of the following methods to return to Normal view:
   - Click Close Master View on the Master View toolbar.
   - Go to View > Normal on the Menu bar.

7) Save the presentation file before continuing.

Applying master slides

To apply a master slide to all slides or selected slides in a presentation:

1) Click on Master Slides on the right of the Sidebar to open the Master Slides deck.

2) Right-click on the required master slide in the Used in This Presentation panel.

3) Select Apply to All Slides or Apply to Selected Slides from the context menu.

Loading additional master slides

In a presentation, it may be necessary to mix multiple master slides that belong to different templates (for more information on templates, see the Impress Guide). For example, you may want a completely different layout for the first slide of the presentation, or want to add a slide from a different presentation to the current presentation.

1) Select the slide or slides in the Slides pane where the master slide is to be changed.

2) Go to Slide > Change Slide Master on the Menu bar to open the Available Master Slides dialog (Figure 154).

3) To add master slides, click on Load to open the Load Master Slide dialog (Figure 155).
4) In the Load Master Slide dialog, select the template category and the template from which to load the master slide.

5) Click **OK** to close the Load Master Slide dialog and the master slides from the selected template appear in the Available Master Slides dialog.

6) In the Available Master Slides dialog, select the master slide required in the **Select a Slide Design** box.

7) To apply the selected master slide to all slides in the presentation, select the **Exchange background page** check box. To apply the slide design to the selected slides only, deselect the **Exchange background page** check box.

8) Click **OK** to apply the selection to the slides and close the dialog.

**Note**

The master slides in the template selected are now shown in the **Available for use** panel in the Master Slides deck on the Sidebar.

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**Figure 154: Available Master Slides dialog**
Modifying master slides

The following items can be changed on a master slide. For more information, see the Impress Guide:

- Background (color, gradient, hatching, or bitmap).
- Background objects (for example, adding a logo or decorative graphics).
- Text attributes for the main text area and notes.
- 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.

To modify a master slide, follow these steps:

1) Select View > Master Slide from the Menu bar. This also opens the Master View toolbar.
2) Select a master slide for editing in the Slides pane so that it appears in the Workspace.
3) Go to Slide > Slide Properties on the Menu bar or right-click in the Workspace and select Slide Properties from the context menu to open the Slide Setup dialog (Figure 156).
4) Use the various options in the Slide, Background, and Transparency pages in the Slide Setup dialog to make changes to the format of the master slide.
5) Click OK to save the changes and close the Slide Setup dialog.
6) Select an object on the master slide, then right-click on the object to open a context menu.
7) Select one of the options from the context menu to edit the object. Selecting an option may open another context menu, a dialog, an application or file browser window to make the necessary changes to the selected object.
8) Click Close Master View on the Master View toolbar or go to View > Normal on the Menu bar to exit from editing master slides.
9) Save the presentation file before continuing.
Any changes made to one slide when in Master Slide mode appears on all slides using this master slide. Always make sure to close Master Slide and return to Normal view before working on any of the presentation slides.

The changes made to an element on a slide in Normal view is not overridden by subsequent changes to the master slide. There are cases, however, where it is desirable to change a manually modified element of a slide to the style defined in the master slide. To change to default formatting, select the element and select Format > Clear Direct Formatting from the Menu bar.

Adding text, footers, and fields to master slides

Text

1) Go to View > Master Slide on the Menu bar to open Master View.
2) Insert a text box on the master slide, see “Text boxes” on page 182 for more information.
3) Type or paste the text into the text box.
4) Click outside the text box when finished adding text.
5) Go to View > Normal on the Menu bar or click Close Master View on the Master View toolbar when finished.
**Default footers**

By default, a slide footer consists of three sections, each containing a default field:

- **Left section** – date and time, labelled *Date Area*. Field name is `<date/time>`.
- **Center section** – footer text, labelled *Footer Area*. Field name is `<footer>`. This section could be the presentation title, file name, or other information.
- **Right section** – slide number, labelled *Slide Number Area*. Field name is `<number>`.

The default footer fields are set up using the Header and Footer dialog (Figure 159):

1. Go to **View > Master Slide** on the Menu bar to open Master View.
2. Go to **Insert > Header and Footer** on the Menu bar to open the Header and Footer dialog.
3. Click on the Slides tab to open the options available for inserting footers onto a slide.
4. Select **Date and Time** for the date and time to appear in the left section of the footer.
   - For a fixed date and time, select **Fixed** and enter the date required in the **Fixed** text box.
   - For a variable date and time, select **Variable**, then select the format and language from the **Format** and **Language** drop-down lists. Using a variable date and time means that each time the presentation is opened, the date and time are updated.

![Header and Footer dialog - Slides page](image)

*Figure 157: Header and Footer dialog - Slides page*
5) To place text in the footer center section, select **Footer** and then type or paste the text into the **Footer text** input field.

6) To place the slide number in the right section of the footer, select **Slide number**.

7) If the footer is not going to appear on the first slide of a presentation, select **Do not show on the first slide**. The first slide is normally the title slide of a presentation.

8) Click **Apply** to save the changes and close the Header and Footer dialog.

9) To format the text used for the default footer fields, see the **Impress Guide**.

10) Click **Close Master View** on the Master View toolbar or go to **View > Normal** on the Menu bar when setting up the default footer fields is completed.

**Note**

The default sections in a footer can be formatted, resized, and repositioned. See “Adding and formatting text” on page 181 for more information.

**Custom footers**

The default fields in a footer section can be replaced with text or manual fields as follows:

1) Go to **View > Master Slide** on the Menu bar to open the master slide view.

2) Highlight the default field in the footer section and press the **Delete** or **Backspace** key. A flashing text cursor will appear in the footer section and the Text Formatting toolbar automatically opens replacing the Line and Filling toolbar.

3) Type in the required text or insert a manual field into the footer section. For more information, see “Manual fields” on page 199.

4) Format the text or manual field placed in the footer section. See “Adding and formatting text” on page 181 and the **Impress Guide** or more information.

5) Click outside the footer section to close the Text Formatting toolbar and reopen the Line and Filling toolbar.

6) Click **Close Master View** on the Master View toolbar or go to **View > Normal** on the Menu bar when setting up a custom footer section is completed.

**Manual fields**

Manual fields can be added as text objects on a master slide or replace one of the default footer fields. The fields you can use in a slide are as follows:

- **Date** (fixed)
- **Date** (variable) – updates automatically each time the presentation is opened.
- **Time** (fixed)
- **Time** (variable) – updates automatically each time the presentation is opened and each time a slide is opened more than once during a presentation.
- **Author** – first and last names listed in the LibreOffice user data.
- **Slide number** – the sequence number of the slide, without the word “Slide”.
- **Slide Title** – defaults to Slide 1, Slide 2, and so on if the slides have not been renamed.
- **Slide Count** – the number of slides in the presentation.
- **File Name**

**Tip**

To change the author information, go to **Tools > Options > LibreOffice > User Data** on the Menu bar.
Adding comments

Impress supports comments similar to those in Writer and Calc. For more about adding, navigating, and replying to comments, see Chapter 4, Getting Started with Writer.

Before using comments, make sure that your name and initials are entered into Tools > Options > LibreOffice > User Data. The name and initials then appear in the comment marker and in the Author field of the comment. If more than one person edits the document, each person is automatically allocated a different background color.

1) In Normal View, go to Insert > Comment on the Menu bar or use the keyboard shortcut Ctrl+Alt+C to open a blank comment (Figure 160).
   
   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.

2) Type or paste your comment into the text box.

3) Move the small comment markes to the required position on the slide. Normally, this is on or near the text or object being referred to in the comment.

4) To show or hide the comment markers, choose View > Comments on the Menu bar.

5) Select Tools > Options > LibreOffice > User Data to configure the name and initials that appear in comments.

Figure 158: Adding a comment

Printing handouts

Handouts are used for distributing copies of presentation slides to each member of the audience. Handouts are only available in View > Handout on the Menu bar and are printed using the printing options in Impress.

Note

The printing of handouts depends on the printer, computer operating system, and how a computer is set up. The following is only an example of how to print handouts.
1) Go to View > Master Handout on the Menu bar to set up the layout of slides for printing handouts. An example handout is displayed in the Workspace (Figure 159).

2) Go to Insert > Header and Footer on the Menu bar to open the Header and Footer dialog (Figure 162).

3) Click on Notes and Handouts tab.

4) Select the required header and footer options as follows:
   - Select Header and then enter text in the Header text: text box.
   - Select Date and time and then select either Fixed or Variable for the date and time.
   - If a fixed date and time was selected, enter the date and/or in the text box.
   - If a variable date and time was selected, select the Format for the date and time from the drop-down list.
   - If a variable date and time was selected, select the Language to set the options for the date and time format from the drop-down list.
   - Select Footer and then enter text in the Footer text: text box.
   - Select Page Number if you want the handout pages numbered.

5) Click on Apply to All to save the options for the handouts and close the Header and Footer dialog.

6) Go to File > Print on the Menu bar or use the keyboard shortcut Ctrl+P to open the Print dialog and click on the LibreOffice Impress tab to open the page for printing options of handouts (Figure 164).
a) In **Document**, select the required options from the drop-down lists as follows:
   - **Type:** – select *Handouts* from the drop-down list.
   - **Slides per page:** – select how many slides are printed on a sheet of paper.
   - **Order:** – select the order in which the slides are printed on a sheet of paper.

b) In **Contents**, select *Slide name, Date and time, and/or Hidden pages* if these items are to be printed.

c) In **Color**, select how the handouts are printed.

d) In **Size**, select the size for how the handouts are printed.

7) **Click on Print** to print the handouts and close the Print dialog.
Creating a photo album

Impress can create a photo album from a set of photographs and images. The photo album can be a multimedia show with vacation pictures and/or graphics and images as a presentation file.

1) Create a new presentation or open an existing presentation.
2) Select the slide that is going to precede the photo album. In a new presentation, this will be the first slide.
3) Go to **Insert > Media > Photo Album** on the Menu bar to open the Create Photo Album dialog (Figure 163).
4) Click on **Add** to open a file browser and navigate to the folder where the images are located.
5) Select the images required and click **Open**. This closes the file browser and the selected files appear in the Create Photo Album dialog.
6) Select the number of images per slide in the **Slide layout**: drop-down list.
7) If required, select **Add caption to each slide**. This inserts a text box on each slide allowing captions to be added to the images.
8) If required and there is only one image per slide, select **Fill Screen** for each image to fill the entire slide.
9) Create the required sequence of photos or pictures by moving image files up or down in the list of images.
10) When the sequence of images is ready, click **Insert Slides** to create the number of slides required for the photo album. The sequence can be changed later.
11) If required, copy and paste images between slides as with any other elements that can be placed on a slide.

12) If required, set up the photo album to run as a presentation. See “Presentations (slide shows)” below, “Running presentations” on page 209, and the Impress Guide.

Presentations (slide shows)

Impress allocates reasonable default settings for presentations, while at the same time allowing for customizing many aspects of the presentation experience. This section provides an introduction to presentations. For more information on creating, formatting and running presentations, see the Impress Guide.

Most of the tasks are best done in Slide Sorter view in the Workspace where the majority of the slides in a presentation can be viewed. Go to View > Slide Sorter on the Menu bar or click on the Slide Sorter tab at the top of the Workspace.

Multiple presentations – single set of slides

There may be more slides than the time available for a presentation, or you may need only a brief overview first and then a more detailed presentation at a later date. Impress provides two tools that help you do this: hiding slides and custom slide shows.

Hiding slides

1) Select slides for hiding in the Slide pane or Slide Sorter view in the Workspace.

2) Hide the selected slides using one of the following methods. Hidden slides are greyed out in the Slide pane or Slide Sorter view in the Workspace.
– Go to Slide > Hide Slide on the Menu bar.
– Right-click on the slide thumbnail and select Hide Slide in the context menu.
– Click on Hide Slide in the Slide View toolbar.

3) To show a hidden slide, use one of the following methods.
– Go to Slide > Show Slide on the Menu bar.
– Right-click on the hidden slide thumbnail and select Show Slide in the context menu.
– Click on Show Slide in the Slide View toolbar.

**Custom slide shows**

1) Select the slides required for a custom slide show in the Slide pane or Slide Sorter view in the Workspace.

2) Go to Slide Show > Custom Slide Show on the Menu bar to open the Custom Slide Shows dialog (Figure 163).

3) Click on New and the Define Custom Slide Show dialog opens (Figure 164).

4) Type a name for the new custom slide show in the Name text box.

5) In the Existing slides list, select the slides to include in the show.

6) Click the >> button to include the slides in the Selected slides list. Several slides can be selected and included at the same time. Hold down the Shift key and click the first and last slide in a group to select that group, or hold down the Ctrl key and click on individual slides to select them.

7) If required, rearrange the slide order in the Selected slides list. Click on a slide name and drag it to a new position in the list, then release the mouse button.

8) Click OK to save the custom slide show and return to the Custom Slide Shows dialog.

9) To activate a custom show, select it in the list in the Custom Slide Shows dialog and then select the Use custom slide show option.

10) Click Start to test the custom slide show or click OK to close the Custom Slide Shows dialog.
Slide transitions are effects and/or sounds that take place between slides when slides change in a presentation and can add a professional look to a presentation, smoothing the change over between slides. For more information on how to setup slide transitions, modify slide transitions, and to advance slides in a presentation, see the Impress Guide.

1) Click on Slide Transition in the Sidebar to open the Slide Transition deck (Figure 167).
2) In the Slides pane or Slide Sorter view in the Workspace, select the slides where slide transitions are going to be applied.
3) Click on a transition to apply it to the selected slide.
4) To apply the same transition to all slides in the presentation, click Apply Transition to All Slides at the bottom of the Slides Transition deck.
5) To check how the transition looks, click Play at the bottom of the Slides Transition deck. Alternatively, to automatically preview how the transition looks when it is applied, select Automatic Preview at the bottom of the Slides Transition deck.
6) In the Advance Slide section, select how the slides change in a presentation.
   - On mouse click – each time the mouse is clicked, the presentation advances to the next slide.
   - Automatically after – enter a time in box to elapse before the next slide in the presentation advances into view.
Figure 165: Slide Transition deck on the Sidebar

Playing sounds or music

Sound or music can be played during a presentation as a transition effect. When using music in a presentation, make sure you are not infringing any copyright or license for the music.

1) Click on Slide Transition in the Sidebar to open the Slide Transition deck.
2) In the Slides pane or Slide Sorter view in the Workspace, select the slide to add sound or music.
3) In the Modify Transition section, select a sound from the Sound drop-down list.
4) To play music, use the following steps to select a music file:
   a) Select Other sound from the Sound drop-down list.
   b) In the file browser window that opens, navigate to where the music file is located.
c) Select the music file required and click **Play** to check if the music is suitable.

d) If the music is suitable, click **Open** to add the music to the selected slide and close the file browser window.

5) To play a sound or music file continuously in the slide show, select the option *Loop until next sound*. The sound or music file restarts once it is finished until the next sound or music file that is inserted in the slide show.

**Note**

Do not select the **Apply Transition to All Slides** option, otherwise the selected music file restarts at every slide.

**Note**

The sound or music file is linked to a presentation rather than embedded. If you plan to display the presentation on a different computer, remember to make sure that the music file is available on the computer where the presentation will be played. The link to the sound or music file must be established before starting the presentation.

**Animation effects**

Slide animations are similar to transitions, but they are applied to individual elements in a single slide, such as title, chart, shape, or individual bullet point. Animations can make a presentation more lively and memorable. However, as with transitions, heavy use of animations can be distracting and even annoying for an audience expecting a professional presentation.

Animations are best applied using Normal view in the Workspace so that you can easily select individual objects on a single slide.

On a slide, an element such as a graphic or an entire text box has selection handles around it when selected. If you select only a portion of the text in a text box, any selection handles may not be visible. For more information on animation effects, see the *Impress Guide*.

1) Go to **View > Normal** on the Menu bar to open Normal view in the Workspace.
2) Select an element on a slide for animation.
3) On the Sidebar, select **Animation** to open the Animation deck (Figure 168).
4) Click on **Add Effect** (+ plus sign) to open the animation options on the Animation deck.
   a) Select an animation category from the **Category** drop-down list.
   b) Select an animation effect from the available options in the **Effect** list.
   c) Select how the animation starts from the **Start** drop-down list.
   d) Select the direction of the animation from the **Direction** drop-down list.
   e) Enter a time for the duration of the animation in the **Duration** box.
   f) Enter a time for the delay of when the animation starts in the **Delay** box.
5) If required, select **Automatic Preview** so that how the animation looks can be checked when applied to a slide element.
6) Click **Play** to check how the animation looks when applied to a slide element.
Running presentations

1) Open the presentation and start the slide show using one of the following methods:
   – Use the keyboard shortcut F5 to start from the first slide or Shift+F5 to start from the current slide.
   – Go to Slide Show > Start from First Slide or Start from Current Slide on the Menu bar.
   – Click on Start from First Slide on the Slide Sorter toolbar.

2) If the slide transition is set to Automatically after x sec, the slide show starts and runs after the set time has elapsed.

3) If the slide transition is set to On mouse click, click the left mouse button, or press the down arrow key, the right arrow key, the page down key, or the spacebar.

4) To navigate backwards through a slide show one slide at a time, press the up arrow key, the left arrow key, or the page up key.

5) During a slide show, more navigation options are available when you right-click on a slide and use the options available in the context menu.
6) When the last slide has displayed, the message **Click to exit presentation...** is displayed on screen. Press the Esc key or click the left mouse button to exit the slide show.

7) To exit the slide show and return to the Impress workspace at any time, press the Esc key during the slide show.

**Note**

During the presentation, any animations on a slide are run in the specified order as the slide is displayed.

### Presenter Console

The Presenter Console provides extra control over slide shows when using dual displays, such as a laptop for yourself and a large display or projector for your audience. The view you see on a computer display includes the current slide that can be seen by the audience, the next slide in the presentation, any slide notes, and a presentation timer.

**Note**

The Presenter Console only works with operating systems that support two displays. When two displays are being used, one display can be a laptop.

The Presenter Console has to be enabled in Impress before use. Go to **Tools > Options** > **LibreOffice Impress > General** (Figure 167) and select **Enable Presenter Console** in **Presentation**.

The Presenter Console provides the following views to assist you when making a presentation:

- **Default view** – displays the current slide, including any effects and the next slide in the presentation (Figure 168). Click on the **Previous** and **Next** arrows to navigate through the presentation.
- **Notes view** – click on **Notes** to switch to display any notes that accompany each slide in the presentation (Figure 169). Click on **Notes** again to return to the default view.
- **Slides view** – click on **Slides** to switch to display the slide thumbnails that are being used for the presentation (Figure 170). Click on **Slides** again to return to the default view.
- **Exchange** – click on this icon to switch the Presenter Console between displays.

*Figure 167: Options – LibreOffice Impress – General dialog*
Figure 168: Presenter Console - Default view

Figure 169: Presenter Console - Notes view
Figure 170: Presenter Console - Slides view
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 easily and 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. If an image is created in Draw, reusing it in a Writer document is relatively easy. For example, select and copy the drawing in Draw and then paste the image directly into a Writer document. Also, drawings can be worked on directly from within Writer or Impress, using a subset of the functions and tools from Draw.

The functionality of LibreOffice Draw is extensive. Draw was not designed to rival high-end graphics applications, but it possesses more functionality than the drawing tools that are generally integrated with the majority of 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, but it does not attempt to cover all of the Draw features. See the Draw Guide and LibreOffice Help for more information.

Draw main window

Workspace

The large area in the center of the Draw main window (Figure 171) is the Workspace, where drawings are created. 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, user preferences, and computer setup.

The maximum size of a drawing page in LibreOffice Draw is limited by the computer setup and the page size that can be set and used in the printer connected to the computer.

Pages pane

Drawings in Draw can be split over several pages. Multi-page drawings are used mainly for presentations. The Pages pane, on the left side of the Draw main window, gives an overview of the pages that are created in a drawing. If the Pages pane is not visible, go to View > Page Pane on the Menu bar. To make changes to the page order, drag and drop one or more pages.

Layers bar

A layer is a workplace where you can insert drawing elements and objects. By default, the Workspace consists of three layers (Layout, Controls, and Dimension Lines). The default layers cannot be deleted or renamed, but you can add layers when necessary.

Tabs for default and other layers appear in the Layers bar at the bottom of the Workspace. You can use the Layers bar for navigation between layers, adding layers as required, or deleting layers that have been created. For more information on layers, see “Working with layers” on page 244.
Sidebar

The Sidebar has five main decks in Draw and is similar to the Sidebar in the other LibreOffice modules. To open a deck, click on its icon on the right of the Sidebar, or click on the Sidebar Settings icon at the top of the tab bar and select a deck from the drop-down list. If the Sidebar is not visible, go to View > Sidebar on the Menu bar.

- **Properties**
  Contains panels for object properties, for example Page, Character, Paragraph, Area, Effect, Shadow, Image, Line, and Position and Size. Available panels depend on the object selected.

- **Shapes**
  Provides quick selection of most items that are available on the Drawing toolbar: Lines and Arrows, Curves and Polygons, Connectors, Basic Shapes, Symbol Shapes, Block Arrows, Flowchart, Callouts, Stars and Banners, and 3D Objects.

- **Styles**
  Provides options to edit and apply Drawing Styles to objects within a drawing. When a style is edited or modified, the changes are automatically applied to all of the elements formatted using that style. In Draw, Presentation Styles are not available.

- **Gallery**
  From the Gallery deck, objects can be inserted into a drawing either as a copy or as a link. The Gallery is divided into categories: Arrows, BPMN (Business Process Model and Notation), Bullets, Diagrams, Flowchart, Icons, Network, Shapes, and Sounds. See the Draw Guide for more information on creating links to objects and files.
**Navigator**

On the Navigator deck, you can quickly select pages and objects in a drawing. It is recommended to give pages and objects in a drawing meaningful names so that they are easily identified when using the Navigator.

**Rulers**

Rulers are positioned on the upper and left-hand sides of the Workspace. If they are not visible, go to *View > Rulers* on the Menu bar. The rulers show the size of a selected object on the page using double lines (highlighted in Figure 172). You can also use the rulers to manage object handles and guide lines when positioning 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 cursor. The margin areas are indicated by the grayed out area on the rulers as shown in Figure 172.

To change the measurement units of the rulers, right-click on a ruler and select the measurement unit from the drop-down list, as shown in Figure 173 for the horizontal ruler. The horizontal and vertical rulers can be set to different measurement units.

![Rulers showing object size](Figure 172: Rulers showing object size)

![Ruler measurement units](Figure 173: Ruler measurement units)
Status bar

The Status bar (Figure 174) is located at the bottom of the Workspace in all LibreOffice modules. It includes several Draw-specific fields, which are described where relevant in this chapter. For details on the contents and use of these fields, see Chapter 1, Introducing LibreOffice, in this guide and the Draw Guide. To hide the Status Bar, go to View on the Menu bar and deselect Status Bar.

![Figure 174: Status bar](image)

**Note**

The measurement units shown on the Status Bar are set by going to Tools > Options > LibreOffice Draw > General on the Menu bar. These units may be different to the measurement units set for the rulers.

Toolbars

To display or hide the various Draw toolbars, go to View > Toolbars on the Menu bar and select from the drop-down menu. For more information on toolbars, see the Draw Guide.

The icons used for the tools on each toolbar depend on the computer operating system and how LibreOffice has been setup on a computer. For more information on how to setup LibreOffice, see Chapter 2, Setting Up LibreOffice.

The three main toolbars used in Draw are:

- **Standard** – this toolbar is the same for all LibreOffice components. By default it is docked at the top of the Workspace when a Draw document is opened (Figure 175).

![Figure 175: Standard toolbar](image)

- **Drawing** – this toolbar contains all the necessary functions for drawing various geometric and freehand shapes, and for organizing them in the drawing. By default, it is locked into position on the left of the Workspace (Figure 176).

![Figure 176: Drawing toolbar](image)

- **Line and Filling** – this toolbar is normally docked at the top of the Workspace below the Standard toolbar. The tools and pull-down lists on this toolbar vary according to the type of object selected. The Line and Filling toolbar (Figure 177) only becomes active when an object on the Workspace is selected.
Drawing basic shapes

Draw provides a wide range of shapes, located in palettes accessed from the Drawing toolbar or from the Shapes deck on the Sidebar (Figure 178). 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 basic shapes available.

Some of the tool icons on the Drawing toolbar change according to the shape that has been selected. Some tools on a toolbar have extra tool palettes available and these are indicated by a small downward triangle ▼ to the right of the tool icon.

Note

When you draw a basic shape or select one for editing, the Information field in the Status bar changes to reflect the present action. For example Line created, Text frame xxyy selected, and so on.
Straight lines

1) Use one of the following methods to start drawing a line:
   – Click on Insert Line on the Drawing toolbar.
   – Click the small downward triangle ▼ on the right of the Lines and Arrows tool on the Drawing toolbar and select Insert Line from the drop down list.
   – Click on Insert Line in the Lines and Arrows section of the Shapes deck on the Sidebar (Figure 178).

2) Place the cursor at the starting point on the drawing, then click and drag the cursor to draw a straight line.

3) Release the mouse button when the end point is reached and a straight line is created. 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 as shown in Figure 179.

   ![Figure 179: Line starting point](image)

**Tip**

To snap the end of a line to the nearest grid point, keep the Ctrl key pressed while drawing the line. However, if the Snap to Grid option in View > Snap Guides on the Menu bar has been selected, the Ctrl key deactivates the snap to grid.

To restrict the drawing angle of a line to a multiple of 45 degrees (0, 45, 90, 135, and so on), keep the Shift key pressed while drawing the line. However, if the option When creating or moving objects in the Constrain Objects section of Tools > Options > LibreOffice Draw > Grid has been selected, the Shift key deactivates this restriction.

To draw a line symmetrically outwards in both directions from the start point, keep the Alt key pressed while drawing the line. This draws lines by starting from the center of the line.

When a line is drawn, it uses default attributes. To change any of these attributes and format a line to the drawing requirements, select a line by clicking on it and use one of the following methods to access formatting options for the line:

- Go to the Properties deck on the Sidebar and open the Line panel (Figure 180).
- Right-click on a line and select Line in the context menu to open the Line dialog (Figure 181).
- Go to Format > Line on the Menu bar to open the Line dialog.
- Use the tools Line Style, Line Width, and Line Color on the Line and Filling toolbar.
Figure 180: Line panel in Properties deck on Sidebar

Figure 181: Line dialog - Line page
Arrows

Draw classifies both lines and arrows as lines and are drawn like straight lines. Hovering the cursor over each tool in the Lines and Arrows sub-toolbar (Figure 182) indicates what type of line or arrow each tool will draw. The information field on the Status Bar shows them only as lines.

![Lines and Arrows sub-toolbar](image)

Figure 182: Lines and Arrows sub-toolbar

1) Use one of the following methods to start drawing an arrow:
   - Click the small downward triangle ▼ on the right of the Lines and Arrows tool on the Drawing toolbar and select the type of arrow required from the Lines and Arrows sub-toolbar (Figure 182) that opens.
   - Click on the type of arrow required in the Lines and Arrows section of the Shapes deck on the Sidebar.

2) Place the cursor at the starting point of the arrow, then click and drag the cursor. The arrowhead is drawn at the end point of the arrow when the mouse button is released.

Tip

To snap the end of an arrow to the nearest grid point, keep the Ctrl key pressed while drawing the arrow. However, if the Snap to Grid option in View > Snap Guides on the Menu bar has been selected, the Ctrl key deactivates the snap to grid.

To restrict the drawing angle of an arrow to a multiple of 45 degrees (0, 45, 90, 135, and so on), keep the Shift key pressed while drawing the arrow. However, if the option When creating or moving objects in the Constrain Objects section of Tools > Options > LibreOffice Draw > Grid has been selected, the Shift key deactivates this restriction.

To draw an arrow symmetrically outwards in both directions from the start point, keep the Alt key pressed while drawing the arrow. This draws arrows by starting from the center of the line.

Note

Hovering the cursor over each type of line or arrow available indicates the type of line or arrow each tool draws.

Note

The tool icon for the Lines and Arrows tool used most recently will already be selected on the Drawing toolbar. This makes it easier to use the same tool again.
Note

After drawing a line or arrow, the line or arrow style can be changed by opening the Line dialog and using the options available on the Line Styles or Arrow Styles pages.

Rectangles

1) Use one of the following methods to start drawing a rectangle:
   - Click on Rectangle on the Drawing toolbar.
   - Click the small downward triangle ▼ on the right of the Basic Shapes tool on the Drawing toolbar and select Rectangle from the Basic Shapes sub-toolbar (Figure 183).
   - Click on Rectangle in the Basic Shapes section of the Shapes deck on the Sidebar.
   - Select the type of rectangle from the Legacy Rectangles toolbar (Figure 184). To display the toolbar, go to View > Toolbars on the Menu bar and select it.

2) Place the cursor at the starting point for the rectangle, then click and drag the cursor until the required size is drawn. As the rectangle is drawn, the rectangle appears with its bottom right corner attached to the cursor.

3) To draw a rectangle from its center, position the cursor on the drawing, press the mouse button and then hold down the Alt key while dragging the cursor. The rectangle uses the start point as the center of the rectangle.

![Basic Shapes sub-toolbar](image)

*Figure 183: Basic Shapes sub-toolbar*

![Legacy Rectangles toolbar](image)

*Figure 184: Legacy Rectangles toolbar*
Squares

1) Use one of the following methods to start drawing a square:
   - Click on Rectangle on the Drawing toolbar, then hold down the Shift key while dragging the cursor to draw a square.
   - Click the small downward triangle ▼ on the right of the Basic Shapes tool on the Drawing toolbar and select Square from the Basic Shapes sub-toolbar (Figure 183).
   - Click on Square in the Basic Shapes section of the Shapes deck on the Sidebar.
   - Select the type of square from the Legacy Rectangles toolbar (Figure 184). To display the toolbar, go to View > Toolbars on the Menu bar and select it.

2) Place the cursor at the starting point for the square, then click and drag the cursor until the required size is drawn. As the square is drawn, the square appears with its bottom right corner attached to the cursor.

3) To draw a square from its center, position the cursor on the drawing, press the mouse button and then hold down the Alt key while dragging the cursor. The square uses the start point as the center of the square.

Ellipses (ovals)

1) Use one of the following methods to start drawing an ellipse:
   - Click on Ellipse on the Drawing toolbar.
   - Click the small downward triangle ▼ on the right of the Basic Shapes tool on the Drawing toolbar and select Ellipse from the Basic Shapes sub-toolbar (Figure 183).
   - Click on Ellipse in the Basic Shapes section of the Shapes deck on the Sidebar.
   - Select the type of ellipse from the Legacy Circles and Ovals toolbar (Figure 185). To display the toolbar, go to View > Toolbars on the Menu bar and select it.

2) Place the cursor at the starting point for the ellipse, then click and drag the cursor until the required size is drawn. As the ellipse is drawn, the ellipse appears with its bottom right corner attached to the cursor.

3) To draw an ellipse from its center, position the cursor on the drawing, press the mouse button and then hold down the Alt key while dragging with the cursor. The ellipse uses the start point as the center of the ellipse.

Figure 185: Legacy Circles and Ovals toolbar
Circles

1) Use one of the following methods to start drawing a circle:
   - Click on Ellipse on the Drawing toolbar, then hold down the Shift key while dragging the cursor to draw a circle.
   - Click the small downward triangle ▼ on the right of the Basic Shapes tool on the Drawing toolbar and select Circle from the Basic Shapes sub-toolbar (Figure 183).
   - Click on Circle in the Basic Shapes section of the Shapes deck on the Sidebar.
   - Select the type of circle from the Legacy Circles and Ovals toolbar. To display the toolbar, go to View > Toolbars on the Menu bar and select it.

2) Place the cursor at the starting point for the circle, then click and drag the cursor until the required size is drawn. As the circle is drawn, the circle appears with its bottom right corner attached to the cursor.

3) To draw a circle from its center, position the cursor on the drawing, press the mouse button and then hold down the Alt key while dragging with the cursor. The circle uses the start point as the center of the circle.

   **Tip**
   
   To quickly insert a line, rectangle, ellipse, or circle, press and hold down the Ctrl key and then click on one of the icons for Line, Rectangle, Ellipse, or Circle and 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. For more information, see the Draw Guide.

Dimension lines

Dimension lines display a measurement of an object in the drawing (Figure 186). The dimension line does not belong to the object itself, but it is normally placed close to it.

1) Use one of the following methods to start drawing a dimension line:
   - Click the small downward triangle ▼ on the right of the Lines and Arrows tool on the Drawing toolbar and select Dimension Line from the Lines and Arrows sub-toolbar that opens.
   - Click on Dimension Line in the Lines and Arrows section of the Shapes deck on the Sidebar.

2) Place the cursor at the point close to the object to position the start of the dimension line.

3) Click and drag the cursor to draw the dimension line. As the dimension line is drawn, the dimension is displayed and automatically calculated.

4) To change the measurement unit used for dimension lines, go to Tools > Options > LibreOffice Draw > General on the Menu bar.

5) To change the display of a dimension line and its appearance, right-click on the dimension line and select Dimensions in the context menu to open the Dimension Line dialog (Figure 187).

6) Select the required options in Line and Legend, then click OK to save the changes and close the Line Dimension dialog.
Figure 186: Example of dimension lines on an object

Figure 187: Dimension Line dialog
Curves

1) Use one of the following methods to start drawing a curve:
   – Click the small downward triangle ▼ on the right of the Curves and Polygons tool on the Drawing toolbar and select the type of curve from the Curves and Polygons sub-toolbar (Figure 188).
   – Click on the type of curve required in the Curves and Polygons section of the Shapes deck on the Sidebar.

2) Click and hold the left mouse button to create the starting point of the curve, then drag from the starting point to draw a line. Release the mouse button and continue to drag the cursor to bend the line into a curve.

3) Double-click to set the end point of the curve and fix the curve on the drawing. A filled curve automatically joins the last point to the first point, closing the curve and filling it with the selected fill color. A curve without fill will not be closed at the end of drawing the curve.

Note

A single click fixes the curve to the drawing and allows drawing of straight lines from the end of the curve. Each single click allows the drawing of straight lines to continue. Double-click to end drawing a curve with straight lines.

Polygons

1) Use one of the following methods to start drawing a polygon:
   – Click the small downward triangle ▼ on the right of the Curves and Polygons tool on the Drawing toolbar and select the type of polygon from the Curves and Polygons sub-toolbar (Figure 188).
   – Click on the type of polygon required in the Curves and Polygons section of the Shapes deck on the Sidebar.

2) Click and hold the left mouse button to create the starting point of the polygon, then drag from the starting point to draw a line.

3) Release the mouse button and continue to drag the cursor to draw the next line for polygon, then click to mark the end point of the line and to start drawing another line. Holding the Shift key down while drawing lines, restricts the angles used in the polygon to 45° or 90°.

4) Double-click to set the end point of the polygon and fix the polygon on the drawing. A filled polygon automatically joins the last point to the first point, closing the polygon and filling it with the selected fill color. A polygon without fill will not be closed at the end of drawing the polygon.
Polygons 45°

A polygon 45° is drawn using the same procedure as polygons, but the angles between lines are restricted to 45° or 90°. This restriction of angles cannot be changed. However, and if required, hold down the Shift key as the line is drawn so that the line is drawn at an angle other than 45 or 90 degrees.

A filled polygon 45° automatically joins the last point to the first point, closing the polygon and filling it with the selected fill color.

Freeform lines

Drawing a freeform line is similar to drawing with a pencil on paper.

1) Use one of the following methods to start drawing a freeform line:
   - Click the small downward triangle ▼ on the right of the Curves and Polygons tool on the Drawing toolbar and select the type of freeform line from the Curves and Polygons sub-toolbar (Figure 188).
   - Click on the type of freeform line required in the Curves and Polygons section of the Shapes deck on the Sidebar.

2) Click and drag the cursor to create the freeform line shape required.

3) Release the mouse button when satisfied with the freeform line and the drawing is completed. A filled freeform line automatically joins the last point to the first point, closing the freeform line and filling it with the selected fill color.

Glue points and connectors

Glue points

All Draw objects have glue points, which are not normally displayed. Glue points (Figure 189) become visible on an object when a connector is selected on the Drawing toolbar or in the Shapes deck on the Sidebar.

Most objects have four glue points (Figure 189). More glue points can be added and customized using the Glue Points toolbar (Figure 190). If the Glue Points toolbar is not visible, go to View > Toolbars > Glue Points on the Menu bar to open the toolbar. For a more detailed description on adding and using glue points, see the Draw Guide.

Glue points are not the same as the selection handles of an object. Selection 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.

Figure 189: Example of object glue points
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 191 shows an example of using two objects and a connector. For a more detailed description of the use of connectors, see the Draw Guide.

Use one of the following methods to access connectors:

- Click the small downward triangle ▼ on the right of the Connectors tool on the Drawing toolbar and select the type of connector from the Connector sub-toolbar (Figure 192).
- Click on the type of connector required in the Connectors section of the Shapes deck on the Sidebar.

Figure 190: Glue Points toolbar

Figure 191: Example of a connector between two objects

Figure 192: Connectors sub-toolbar
Geometric shapes

Geometric shapes are similar to basic shapes. They are provided in Draw as a starting point when creating objects for a drawing. Geometric shapes are located on the Drawing toolbar and in the Shapes deck on the Sidebar.

The tool icons on the Drawing toolbar, used for drawing geometric shapes, always indicate the last geometric shape drawn and may not be the same as the tool icons shown on the Drawing toolbar in this chapter. This makes it easier to use the same tool again.

Access geometric shapes using one of the following methods:

- Click on Shapes on the Sidebar to open the Shapes deck, then choose from the geometric shapes available.
- Click the small downward triangle ▼ on the right of a geometric shape on the Drawing toolbar to open a drop-down or sub-toolbar giving access to more geometric shape tools. See below for the tools available.

Using geometric shapes is similar to drawing rectangles, squares, ellipses, or circles as explained in “Drawing basic shapes” on page 218. For more information on geometric shapes, see the Draw Guide.

Note

Text can be added to all geometric shapes. For more information, see “Using text” on page 231 and the Draw Guide.

Basic shapes

The Basic Shapes sub-toolbar (Figure 193) also includes rectangle and ellipse tools that are identical to the ones displayed on the Drawing toolbar.

Figure 193: Basic Shapes sub-toolbar
Symbol shapes

![Symbol Shapes sub-toolbar](image1)

Block arrows

![Block Arrows sub-toolbar](image2)

Flowchart

![Flowchart sub-toolbar](image3)
Callouts

Figure 197: Callouts sub-toolbar

Stars and banners

Figure 198: Stars and Banners sub-toolbar

3D objects

Figure 199: 3D-Objects sub-toolbar

Using text

In Draw you can add, insert, and format text in a drawing, object, or shape, as follows. For more information, see the Draw Guide.

- As a dynamic text frame, which is an independent Draw object that expands as more text is added within the frame.
- As text within a previously drawn object. This integrates the text within the object and is placed within the boundary rectangle that surrounds an object. This boundary rectangle is not dynamic and care must be taken so that the text does not go outside the object boundaries.
Text mode

Before you can add any text to a drawing, you need to activate text mode, using one of the following methods:

- Click on **Insert Text Box** on the Standard or Drawing toolbars.
- Go to **Insert > Text Box** on the Menu bar.
- Use the keyboard shortcut **F2**.
- Double-click inside the boundary rectangle that surrounds an object on the drawing. Text inside an object is not placed into a text box.

The Text Formatting toolbar (Figure 200) automatically opens when text mode is activated, replacing the Line and Filling toolbar.

![Text Formatting toolbar](image)

**Figure 200: Text Formatting toolbar**

Adding text

When you add text to a drawing, a text box is automatically created to contain the text.

1) Activate text mode as above.

2) Create a text box in the drawing using one of the following methods:
   - Click at the approximate position for the text box and a single line text box is created containing a flashing cursor. Start typing the text or paste copied text into the text box. The width of a single line text box increases as text is added.
   - Click at the approximate position for the text and drag the cursor to the approximate width required for the text box creating a multi-line text box. Start typing the text or paste copied text into the text box. As the horizontal limit of the text box is reached, the text automatically word wraps inside the text box and the text box expands vertically as it fills.

   The Status bar indicates text edit mode and the position of the cursor (Figure 201).

![Status bar indicating text edit mode](image)

**Figure 201: Status bar indicating text edit mode**

You can create multiple lines of text in a single-line text box by pressing **Enter** to create a new paragraph, or using **Shift+Enter** to create a line break in the text.
3) When you have finished adding text, click outside the text box to exit text mode. The Text Formatting toolbar closes and the Line and Filling toolbar opens in its original position.

4) To format and/or reposition the text box, see the Draw Guide for more information.

5) If required, select the text using the various tools on the Text Formatting toolbar (Figure 200) or in the Character, Paragraph, and Lists panels on the Properties deck of the Sidebar (Figure 202).

Figure 201: Text information in Status bar

Figure 202: Character, Lists, and Paragraph panels in the Properties deck on Sidebar
Vertical text

By default, Draw is set for horizontal text only. The options for vertical text have to be switched on and added as follows:

1) Go to **Tools > Options > Language Settings > Languages** on the Menu bar to open the Languages page in the Options dialog.

2) In **Default Languages for Documents**, select the **Asian** option and the default language displayed in the scroll box.

3) Click **Apply**, then **OK** to close the Options dialog and save the changes.

4) Add the **Insert Vertical Text** tool to the Standard and/or Drawing toolbar as follows:
   a) Right-click in a blank area on the toolbar and select **Visible Buttons** in the context menu.
   b) Select **Insert Vertical Text** from the list of available tools and the icon will appear on the toolbar.

**Note**

Formatting vertical and vertical text boxes is the same as horizontal text and horizontal text boxes. A vertical text box expands vertically as text is added into the box. For more information on vertical text, see the *Draw Guide*.

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. The first click selects an object and a second click deselects the selected object. To select or deselect more than one object, hold the **Shift** key down while clicking.

Selection by framing

You can select several objects once by clicking and dragging the cursor around the objects, drawing a selection rectangle around the objects. Only objects that lie entirely within this selection rectangle are selected. To select multiple objects by framing, **Select** on the Drawing toolbar must be active.

**Note**

When you drag the cursor to select multiple objects, the selection rectangle being created is also known as a marquee.

Selecting hidden objects

If objects are located behind others and not visible, they can still be selected. When you select a hidden object, its selection handles appear through the objects covering it.

- **Windows, macOS or Linux** – press the **Tab** key to select and cycle through the objects in a drawing, stopping at the hidden object to select it. To cycle through the objects in reverse order, press **Shift+Tab**.
- **Windows or macOS only** – select the object in front of a hidden object, then press the **Alt** key and click to select the hidden object. If there are several hidden objects, keep holding down the **Alt** key and clicking until the object required is reached. To cycle through the objects in reverse order, hold down the **Alt+Shift** keys and click.
Arranging objects

In a complex drawing, several objects may be stacked on top of one another. This stacking order can be rearranged by moving an object forward or backward using one of the following methods:

- Select an object, go to **Shape > Arrange** on the Menu bar, or right-click on the object and select **Arrange** from the drop-down menu, then use one of the following options:
  - **Bring to Front** (Ctrl+Shift++)
  - **Bring Forward** (Ctrl++)
  - **Send Backward** (Ctrl+-)
  - **Send to Back** (Ctrl+Shift+-)
  - **In Front of Object**
  - **Behind Object**
  - **Reverse** – clicking on this option reverses the order of the selected objects.
- Select an object, then click on one of the **Arrange** tools on the Line and Filling toolbar. When you hover the cursor over a tool, its function is indicated.

Positioning and adjusting objects

When positioning or changing the size of an object, check the information area of the Status bar at the bottom of the Draw Workspace (Figure 203). From left to right, it shows what object is selected, its position on the drawing in X/Y coordinates, and the dimensions of the object. The measurement units are those selected in **Tools > Options > LibreOffice Draw > General**. For more information on positioning and adjusting objects, see the **Draw Guide**.

Using zoom

To help in the positioning and adjustment of objects, Draw has a zoom function that reduces or enlarges the screen display of the current drawing. For example, zoom in to position objects on a drawing with greater accuracy; zoom out to see the complete drawing. Zooming is controlled using the Status bar, Zoom & View Layout dialog, or Zoom toolbar. For more information on using zoom, see the **Draw Guide**.
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, a ghost image of the object appears to help with repositioning (Figure 204). To locate the object at its new location, release the mouse button.

![Figure 204: Moving objects](image)

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 cursor changes shape to indicate the direction of movement for that selection handle. As the object size changes, a ghosted outline of the object appears (Figure 205). When the desired size of the object is reached, release the mouse button.

The results depend on which selection handle you use. To resize an object along one axis, use a side, top, or bottom handle. To resize along both axes, use a corner handle.

![Figure 205: Adjusting object size](image)

**Note**
If you press and hold the Shift key while resizing an object, the change in size will be carried out symmetrically with respect to the object width and height so that the aspect ratio of the object remains the same. This Shift key behavior works on all selection handles.

Rotating or slanting objects
To rotate or slant an object (or a group of objects), select an object and switch to rotation mode using one of the following methods:

- Right-click on the object and select Transformations > Rotate in the context menu.
- Click on the small downward triangle ▼ on the right of the tool icon for Transformations on the Standard or Line & Filling toolbar and select Rotate.
The selection handles change shape and color and a center of rotation appears in the center of the object. As the cursor is moved over the handles, the cursor changes shape to indicate the type of movement.

Figure 206: Rotating an object

**Rotation**

1) Click and hold the mouse button over a corner selection handle, then 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, as shown in Figure 206.

2) When the object is at the desired rotation angle, release the mouse button.

3) To change the angle of rotation, click on the rotation point and drag it to another position. This position can be outside the object.

**Note**

Press the *Shift* key while rotating or slanting an object and the movement is restricted to 15°.

**Slanting**

1) Click and hold the mouse button over a selection handle at the top, bottom, left side, or right side of an object.

2) Drag the selection handle to slant the object. A ghost image of the object being slanted appears (as shown in Figure 207) and the current slant angle is shown in the Status bar. The axis used for slanting an object is fixed to the edge of the object directly opposite the selection handle being used to slant the object.

3) When the object is at the desired slant angle, release the mouse button.

Figure 207: Slanting an object
Flipping objects

Select an object so that the selection handles are displayed and flip the object vertically or horizontally using one of the following methods:

- Right-click on the object and select **Flip > Vertically** or **Horizontally** in the context menu.
- Go to **Shape > Flip > Vertically** or **Horizontally** on the Menu bar.
- Click on **Vertically** or **Horizontally** tool on the Line and Filling toolbar.
- Use **Flip Vertically** or **Flip Horizontally** tool in the **Position and Size** section on the Properties deck of the Sidebar.

However, the **Flip** tool on the Transformations toolbar (Figure 208) provides greater control over the flipping process. Use the **Flip** tool to change the position and angle that the object flips over. See the **Draw Guide** for more information.

![Transformations toolbar](image)

Object distortion

Three tools on the Transformations toolbar (Figure 208) let you drag the corners and edges of an object to distort an object.

- **Distort** – distorts an object in perspective.
- **Set in Circle (perspective)** – creates a pseudo 3D effect.
- **Set to Circle (slant)** – creates a pseudo 3D effect. Despite the (slant) in the name of this tool, it operates differently from the slanting created by rotation.

In all three cases, you are asked if you want to convert the object into 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** for more information on how to distort an object.

Dynamic gradients

Transparency gradients can be controlled the same as color gradients. Both types of gradient can be used together. With a transparency gradient, the direction and degree of the object fill color changes from opaque to transparent. In a color gradient, the fill changes from one color to another, but the degree of transparency remains the same. An example of a dynamic gradient is shown in Figure 209.

Two tools on the Transformations toolbar are used to dynamically control transparency and color gradients – **Interactive Transparency** and **Interactive Gradient**. See the **Draw Guide** for more information on how to create transparencies and gradients in an object.
Duplication makes copies of an object while applying a set of changes such as color or rotation to the duplicates that are created. An example of duplication is shown in Figure 210. For more information on duplication, see the Draw Guide.

1) Click on an object or group of objects and open the Duplicate dialog (Figure 211) using one of the following methods:
   - Go to Edit > Duplicate on the Menu bar.
   - Go to Shape > Duplicate on the Menu bar.
   - Use the keyboard shortcut Shift+F3.

2) Select the required number of copies, placement, enlargement, and colors from the options available.

3) Click OK to duplicate the object and close the Duplicate dialog.
Cross-fading transforms one object shape to another object shape. Cross-fading only works when two objects are selected.

1) Select two differently shaped objects and go to Shape > Cross-fading on the Menu bar to open the Cross-fading dialog (Figure 212).

2) In Increments enter the number of shapes between the two objects.

3) Select Cross-fading attributes to apply a gradual change of line and fill properties between the two objects.

4) Select Same orientation to apply a smooth transition between the two objects.

5) Click OK to carry out the cross-fading and close the Cross-fading dialog.
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 Cross-fading dialog are applied to a diamond and an ellipse, the cross-fading produces the result shown in Figure 213.

![Figure 213: Cross-fading example of two objects](image)

**Grouping and combining multiple objects**

Using Draw, a group of objects can be grouped together allowing multiple objects to be treated as one object, or combined together to create a new shape, as shown by the example in Figure 214. For more information on grouping and combining objects, see the *Draw Guide*.

**Grouping**

Grouping of objects is similar to putting objects into a container. The objects can be moved as a group and global changes applied to the objects within the group. A group can always be undone (ungroup). Objects that make up a group can always be manipulated separately and retain their own individual properties.

![Figure 214: Example of grouped and combined objects](image)
**Temporary grouping**
A temporary grouping is when several objects are selected using one of the following methods:

- While holding down the *Shift* key, click on each object with the cursor to select it for the temporary group.
- Using the mouse, click and drag a rectangle (also known as a marquee) around the objects for the temporary group.

Any changes to object parameters carried out are applied to all of the objects within the temporary group. For example, rotating a temporary group of objects in its entirety.

To cancel a temporary grouping of objects, click outside of the selection handles displayed around the objects.

**Permanent grouping**
A permanent grouping of objects can be created after selecting objects using one of the following methods:

- Go to **Shape > Group > Group** on the Menu bar.
- Right-click on the selected objects and select **Group** in the context menu.
- Use the keyboard shortcut *Ctrl+Shift+G*.

When deselected, the objects remain grouped together. Any editing operations carried out on the group are applied to all objects within the group. If one object in the group is clicked, the whole group is selected.

**Editing within groups**
You can edit an individual within a group without ungrouping or breaking the group. After selecting the group, use one of the following methods to enter the group:

- Go to **Shape > Group > Enter Group** on the Menu bar.
- Right-click on the selected group and select **Enter Group** in the context menu.
- Use the keyboard shortcut *F3*.
- Double-click on the selected group.

When you have finished editing an individual object within a group, use one of the following methods to exit the group:

- Go to **Shape > Group > Exit Group** on the Menu bar.
- Right-click and select **Exit Group** in the context menu.
- Use the keyboard shortcut *Shift+F3*.

**Ungrouping**
To ungroup or break apart a permanent group of objects, use one of the following methods after selecting the group:

- Go to **Shape > Group > Ungroup** on the Menu bar.
- Right-click and select **Ungroup** in the context menu.
- Use the keyboard shortcut *Ctrl+Alt+Shift+G*.

**Nesting groups**
You can create a group of groups, more commonly known as nested groups. When nested groups are created, Draw retains the individual group hierarchy and remembers the order in which groups were selected. That is, the last individual group selected will be on top of all the other groups within a nested group. Ungrouping and entering a nested group work in the same way as for individual groups.
Combining objects

Combining is a permanent merging of objects, creating 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. For more information on combining objects, see the Draw Guide.

After selecting the objects for combining, use one of the following methods to create a new object:

- Go to Shape > Combine on the Menu bar.
- Right-click on the objects and select Shapes > Combine in the context menu.
- Use the keyboard shortcut Ctrl+Shift+K.

Merging, subtracting, and intersection

After selecting several objects, the Merge, Subtract, and Intersect functions become available. These functions are similar to combining objects, but allow the creation of a differently shaped object from the selected objects. The shape of the object depends on which function used. See the Draw Guide for more information on how to use these functions.

Arranging, aligning, and distributing objects

In Draw, selected objects can be arranged, aligned, and distributed 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 for more information on arranging and aligning objects.

Inserting and exporting images

Inserting

Draw contains a number of functions for editing images (also called pictures, raster graphics, or bitmaps). These functions include the import and export of images, and conversion from one image format to another. For more information on working with images, see Chapter 11, Images and Graphics in this guide and the Draw Guide.

Draw includes a large range of filters so that it can read and display several image file formats. It also includes several tools for working with images, but does not have the same functionality as specialized programs like GIMP or Adobe Photoshop.

Images can be added from several sources:

- Directly from a scanner (Insert > Media > Scan on the Menu bar).
- Created by another program, for example photographs from a digital camera (Insert > Image on the Menu bar).
- The LibreOffice Gallery; see Chapter 11, Images and Graphics.
Exporting

Draw saves images as drawings in the Open Document Format (ODG). To save an image or the entire Draw file in another format, go to File > Export on the Menu bar and select a format from the drop-down list. The image formats that Draw can export in and save to are listed in Appendix B, Open Source, Open Standards, OpenDocument in this guide.

Draw files can also be exported in HTML, XHTML, or PDF format from LibreOffice. For more information, see Chapter 10, Printing, Exporting, Emailing, and Signing.

HTML export uses a conversion wizard that creates as many web pages as there are pages in a Draw document. You can optionally choose to display drawing pages in frames with a navigator and set an index page. For more information, see Chapter 12, Creating HTML Files.

Working with 3D objects

Although Draw does not match the functionality of specialized drawing or image editing programs, it is capable of producing and editing very good 3D drawings. For more information, see the Draw Guide.

You can create a 3D object in Draw using one of the following methods:

- Select a 3D shape from the 3D Objects section in the Shapes deck on the Sidebar.
- Right-click on a 2D object and select Convert > To 3D or To 3D Rotation Object in the context menu.
- Right-click on a 2D object and select Format > 3D Effects on the Menu bar.

Working with layers

Using layers when creating complex drawings makes a drawing easier to navigate and edit. Placing a simpler drawing that is part of a complex drawing into its own layer makes editing easier. Any area of a layer that does not contain a drawing object is transparent and does not obscure any part of a complex drawing. Any number of layers can be added to a drawing. For more information on layers, see the Draw Guide.

A drawing in LibreOffice contains three default layers that cannot be deleted or renamed:

- **Layout** – is the default Workspace where objects are normally placed when a drawing is created.
- **Controls** – used for form controls that have been assigned an action. Objects on this layer are always in front of objects on other layers.
- **Dimension Lines** – is where the dimension lines are drawn. By switching the layer to show or hide, dimension lines can be switched on or off.

A layer can be set to one or all of the following attributes:

- Visible or hidden.
- Printable or not printable.
- Locked or unlocked.

To quickly toggle the attributes for a selected layer, use the following keyboard shortcuts:

- *Shift+click* – toggle between a layer being visible or hidden.
- *Ctrl+click* – toggle between a layer being locked or unlocked.
- *Ctrl+Shift+click* – toggle between a layer being printed or not printed.
Adding layers

To add a layer to a drawing:

1) Use one of the following methods to open the Insert Layer dialog (Figure 215):
   - Go to Insert > Layer on the Menu bar.
   - Right-click on the layer tabs at the bottom of the Workspace and select Insert Layer in the context menu.

![Insert Layer dialog](image)

*Figure 215: Insert Layer dialog*

2) Enter a meaningful **Name**, **Title**, and **Description** for the new layer in the text boxes.

3) Select **Visible** if the layer is to be visible in a drawing. When **Visible** is not selected, the layer is hidden and its name in the layer tab changes color to blue.

4) Select **Printable** if the layer is to be printed when a drawing is printed. Not printing is useful if a draft layer is required for guides or annotations that are used in making a drawing, but you do not want it to appear in the final output. The name of a layer is underlined in the layer tab bar when the **Printable** option is turned off.

5) Select **Locked** to prevent any objects on this layer from deletion, editing, or moving. No additional objects can be added to a locked layer. Locking a layer is useful, for example, when a base plan is to be protected while adding a new layer with other details. The name of a locked layer is written in **Italics** in the layer tab bar.

6) Click **OK** to create the new layer and close the Insert Layer dialog. A new layer automatically becomes active when added to a drawing.

**Note**

Layers are added to the drawing in the order that they were inserted. The layer order cannot be changed.
Modifying layers

1) To modify a layer, use one of the following methods to open the Modify Layers dialog, which is similar in layout and options to the Insert Layers dialog.
   - Right-click on the name tab of the layer and select Modify Layer in the context menu.
   - Double-click on the layer tab.
   - Go to Format > Layer on the Menu bar.
2) Make the required changes to the layer, then click OK to save the changes and close the Modify Layers dialog.

Choosing colors

You can choose colors using a color palette, the Area and Line panels on the Properties deck of the Sidebar, and tools on the Line and Filling and Drawing toolbars, as described below.

Note

For a more detailed description of the options available for color palettes and custom colors, as well as more information on the difference between the CMYK and RGB color schemes, refer to the Draw Guide.

Color palette

To display the Color Palette that is currently in use (Figure 216), go to View > Color Bar on the Menu bar. To close the Color Palette, go to View on the Menu bar and deselect Color Bar.

Using the Color Palette, you can rapidly choose the color of the area or background, and lines of selected objects in your drawing.

- Left-click on a color to change the color of the area or background of a selected object.
- Right-click on a color to change the color of the lines in a selected object.
- Left-click or right-click on the box with the X at the bottom left of the Color Palette to select no color for the area or lines of a selected object.

![Color Palette](image)

Figure 216: Color Palette (Color Bar)
Sidebar color

In the Area and Line panels in the Properties deck on the Sidebar (Figure 217), you can change the color of an area or line of a selected object as follows:

1) Select an object in a drawing.
2) Click on Properties on the Sidebar to open the Properties deck.
3) Open the Area and/or Line panels by clicking on the down-pointing symbol ▼ on the panel's title bar.

4) Change the color of an area in the Area panel as follows:
   a) Select Color from the Fill drop-down list.
   b) Click on the down-pointing symbol ▼ next to the Fill Color box to open the color palette.
   c) Click on a color to change the area color.
   d) To change the color palette, click on the down-pointing symbol ▼ at the top of the color palette and select a color palette from the drop-down list.
5) Change the color of a line in the Line panel as follows:
   a) Click on the down-pointing symbol ▼ next to the Line Color box to open the color palette.
   b) Click on a color to change the line color.
   c) To change the color palette, click on the down-pointing symbol ▼ at the top of the color palette and select a color palette from the drop-down list.

**Toolbar color change**

The Line and Filling and Drawing toolbars have the same two tools that can be used to change the color of an area (fill) or line – Fill Color and Line Color. These two tools are used in the same way as changing colors using the Area and Line panels on the Properties deck of the Sidebar, described above.

**Adding comments to a drawing**

You can add comments to a drawing using a similar process to the one used in Writer and Calc. For more about adding, navigating, and replying to comments, see Chapter 4, Getting Started with Writer.

Before using comments, make sure that your name and initials are entered into Tools > Options > LibreOffice > User Data. The name and initials then appear in the comment marker and in the Author field of the comment.

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

1) Go to View > Comments on the Menu bar to show or hide the comment markers.
2) Go to Insert > Comment on the Menu bar. A small box containing your initials appears in the upper left-hand corner of the drawing with a larger text box beside it (Figure 218). Draw automatically adds your name and the date at the bottom of this text box.
3) Type or paste your comment into the text box.

![Figure 218: Inserting a comment](image)

4) If necessary, click and drag the small comment markers to move the comment to a different position on the drawing. Normally, the comment marker is placed on or near the object you refer to in the comment.
5) Right-click on the comment and choose an option in the context menu to delete the current comment, all the comments from the same author, or all the comments in the document.
Getting Started Guide

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 business 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 or table into a document according to your requirements.

Caution

Some of Base will work without a Java Runtime Environment (JRE), but the dialogs and wizards that Base uses require JRE. In order to create reports, JRE is also required.

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 the JRE available from the repository of your Linux version. macOS users can install a JRE from Apple Inc.

Base creates both flat and 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 other fields 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).

Instructions for creating a database for automobile expenses will be used to explain how to do this.
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 on a computer 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 vacation expenses. 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 multiple 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.

Without the primary key field in a table, any data added, deleted, or modified has to be done by using the Execute SQL Statement dialog (Tools > SQL...). This takes much longer than to insert it using the Table Data View dialog. But thereafter, the data is visible in the table and is available to be used in queries, forms, and reports.
Creating a new database

To create a new database, select **File > New > Database** on the Menu bar, or click the arrow next to the **New** icon on the Standard toolbar and select **Database** in the drop-down menu. You can also click the **Base Database** button in the **Create** area of the LibreOffice Start Center. If you are already working in Base, you can also press **Ctrl+N**. All of these methods open the Database Wizard.

On the first page of the Database Wizard (Figure 219), select **Create a new database**. Be sure that the **HSQLDB Embedded** entry is selected in the **Embedded database** drop-down menu; see the **Base Guide** for information about using alternative embedded database engines. Click **Next**.

![Figure 219: Creating a new database](image)

The second page of the Database Wizard (Figure 220) has two questions. For the first question, it is advised that the database should be registered. Make sure the choice for the second question is **Open the database for editing**. Click **Finish**.

![Figure 220: Registering the new database](image)

**Note**

In Writer and Calc, selecting **View > Data Sources**, or pressing the **Ctrl+Shift+F4** key combination, opens and closes the Data Sources window containing the list of registered databases. If a database is not registered, this window will not contain it and you cannot access it in Writer or Calc if you need to use data from it in the document you are now working on.
Save the new database with the name Automobile. This opens the Automobile.odb – LibreOffice Base window (Figure 221).

![Automobile.odb - LibreOffice Base](image)

**Figure 221: LibreOffice Base window**

**Tip**

Every time the Automobile database is opened, the Automobile.odb – 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.

**Note**

Database files in Open Document Format are stored with the *.odb extension. This file format is actually a container of all elements of the database, including forms, reports, tables, and the data itself. The same format can also store a connection to an external database server instead of the local data, for example, to access a MySQL or PostgreSQL database server in your network.
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, select View > Tables, or press Alt+A. The tasks that you can perform on a table are in the Tasks list (see Figure 221).

Using the Table 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 Table 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.

Click Use Wizard to Create Table. This opens the Table Wizard (Figure 222).

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 area changes to a list of available fields for this table.

3) **Selected fields**: By selecting each field and using the > button, move the following fields from the Available fields list to the Selected fields list in this order: CollectionID, AlbumTitle, Artist, DatePurchased, Format, Notes, and NumberofTracks.

4) To select fields from another sample table, select Business as the Category. Select Employees in the drop-down list of sample tables. Use the > button to move the Photo field from the Available fields list to the Selected fields list. 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 the field name that is in the wrong order and use the up and down arrows on the right side of the Selected fields list to move it to the correct position.

7) Click Next.
Tip

You can double-click a field in the Available fields list to transfer it to the Selected fields list. Similarly you can double-click a field in the Selected fields list to transfer it back to the Available fields list.

Figure 222: Selecting fields for the table

Step 2: Set field types and formats

In this step you give the fields their properties. When you click a field, the information on the right changes. (See Figure 223.) You can then make changes to meet your needs. Click each field, one at a time, and make the changes listed below.

Figure 223: Changing field types
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*. (The *Entry required* option is not visible in Figure 223 because *AutoValue* has been set to *Yes.*)

- **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 most of the default settings. Since music always has artists, set *Entry Required* to *Yes*.
- **Date Purchased**: *Field type*: default setting. *Entry required* should be *No*. (You may not know the date.)
- **Format**: Only change the *Entry Required* setting: from *No* to *Yes*.
- **Notes**: No changes are required.
- **NumberofTracks**: Change the *Field type* to *Small Integer [SMALLINT]*, which allows for 32768 tracks.
- **Photo**: Use the default settings.

**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 VARCHAR 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.

Another text format is CHAR, which has a fixed length. If the limit is set to 100 characters, every entry into this field will have a length of 100 regardless of whether the actual length is 1 or 100.

**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.

**Tip**

Up and down arrows are available on this page (not shown in Figure 223) and you can use these to reorder the list of fields. Also + and – buttons are available and you can use these to remove fields from the list or to add new fields.

When you have finished, click **Next**.

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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. 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 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 Table Data View 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 on the Standard toolbar at the top of the LibreOffice Base 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 area of the LibreOffice Base window to see the existing tables.
2) Right-click on the **CD-Collection** table icon. Choose **Copy** in the context 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 on the Standard toolbar at the top of the LibreOffice Base 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 a table. We will use this method for the remaining tables of our Automobile database.

Note

While the field types and formatting are different in Design View, the concepts are the same as in the Table 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 in the Tasks area of the LibreOffice Base window. Base opens the LibreOffice Base: Table Design dialog.

2) FuelID field: Type FuelID as the first Field Name entry. Press the Tab key to move to the Field Type column. Select Integer [INTEGER] as the field type in the drop-down list. (The default setting is Text [VARCHAR].)

Figure 224: Defining the primary key field
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 of the dialog. 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 224).

Certain of the integer field types (Integer and BigInt for example) have an AutoValue field property. When using one of these field types, your selection of Yes for AutoValue 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.

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.)
      • FuelCost, FuelQuantity, and Odometer use Number [NUMERIC]. (Press the N key once to select it.)
      • PaymentType uses Text [VARCHAR], the default setting.
   c) FuelCost, FuelQuantity, and Odometer also need changes in the Field Properties section (Figure 225).
      – FuelCost: Change the Length to 5 and Decimal places to 2. Click the Format example ellipsis button (…) (Figure 225). This opens the Field Format dialog (Figure 226). 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.)
      – 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.

4) To save and close the table in the Table Design dialog, select File > Save, click the Save icon on the Standard toolbar, or press Ctrl+S. Name the table Fuel.

5) Close the Table Design dialog.

6) In the main database window, select File > Save, click the Save icon on the Standard toolbar, or Ctrl+S to save the database.
Figure 225: Changing field properties

Figure 226: Format example options
Follow the same steps to create the **Vacations** table. The fields, field types, and descriptions are listed in Figure 227.

![Figure 227: Fields in Vacations table](image)

1) Make the following changes in the **Field Properties** area of the window.
   a) **Odometer**: As described in step 3), bullet c) for the corresponding field of the Fuel table.
   b) **Motel, Tolls, Breakfast, Lunch, Supper, SnCost, and Miscellaneous**: As described in step 3), bullet c) for the **FuelCost** field of the Fuel table.

2) Making **Date** the primary key in this table has to be done in a different way because this field is typed as Date, not Integer.
   a) Right-click to the left of the field name **Date**.
   b) Select **Primary Key** in the context menu.

Following similar steps to those above, you should use Design View to create a much simpler table entitled **Payment Type**. This table contains two fields, named **Type**, with the field type set to **Text[VARCHAR]** and **PaymentID** (field type Integer). Set the **PaymentID** field as the primary key for the table.

### 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. (We are not creating the Maintenance table in these examples.)

**Tip**

As you create your own databases, you will also need to determine if tables are related and if so 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 if you ever need to do so.)

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 on the Standard toolbar, or select **Insert > New Relation**. This opens the Relations dialog (Figure 229). 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** in the 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** in the list. It should now look like Figure 229.

   e) Modify the **Update Options** and **Delete Options** section of the Relations dialog (Figure 230).
      - Select **Update cascade** in the **Update** options area.
      - Select **Delete cascade** in the **Delete** options area.

   f) Click **OK**.

   g) In the Relation Design dialog, click the **Save** icon or select **File > Save**.

   h) Close the Relation Design dialog.

   i) Click the **Save** button on the Standard toolbar at the top of the main database window.

*Figure 228: Designation for a 1:n relationship*
The primary key can contain more than one field. (Its foreign key will contain the same number of fields.) If this were the case in Figure 229, 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.

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 231). More complex forms can contain much more, including additional text, graphics, selection boxes, and many other elements. Figure 232 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 number of options. It saves you from having to type data by hand and having to double-check that the entered data is correct, and ensures that invalid options are not entered.

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1 A field in a table that stores values of the primary key of records in another table.
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 name of the options. This is then linked to the corresponding field in the form. The topic is dealt with in detail in the Base Guide and will not be pursued further here.

**Using the Form 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 221), click the **Forms** icon in the **Database** area, select **View > Forms**, or press **Alt+M**. In the Tasks list, click **Use Wizard to Create Form** to open the Form Wizard (Figure 233). Base displays the Database Form window and the Form Wizard.

Simple forms require only some of these steps, while more complex forms may use all of them.

**Step 1: Select fields**

1) On the Form Wizard dialog, under **Tables or queries** drop-down, select **Table: Vacations**.
   *Available fields* lists the fields for the Vacations table.

2) Click the >> button to move all of these fields to the **Fields in the form** list. Click **Next**.

**Tip**

Using the four action buttons in the center of this page, you can move selected fields, or all fields, in either direction. You can also double-click to move a field from one list to the other. The up and down arrows on the right can be used to re-order entries in the **Fields in the form** list.
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 later in the wizard (Step 4: Get joined fields).

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 234. Click Next.

Step 3: Add subform fields

This step is similar to Step 1: Select fields. 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 Fields in the form list.
3) Click the FuelID field to highlight it.
4) Use the < button to move the FuelID back to the Available fields list (Figure 235).
5) Click Next.

Step 4: Get joined fields

This step is for tables or queries for which no relationship has been defined. Because this has been defined in 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 field 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 – Labels 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 subform**: Click the third icon (As Data Sheet). (The labels are column headings and the field entries are in spreadsheet format.) Click Next.

![Figure 236: Arrange controls](image)

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 option.)
2) Select the Field border you want. (I prefer the 3D look option. 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 Vacations.
2) Click Modify the form.
3) Click Finish. The form opens in edit mode, Base displaying the Fuel – LibreOffice Base: Database Form window.

Modifying a form

The form does not look organized at all. Every control seems to have a different size. The background is not the best color, nor are all of the labels the way we would want them.

The reason for different sized controls is that they contain different types of field data. There are three different sized controls: text, formatted, and date. Text controls have their width set to display a large number of characters. Formatted controls will usually contain numbers or decimals although they can contain a wide variety of formatting. So, these are likely going to have a limited number of characters, hence a shorter control. Date controls obviously contain dates. Most formats for them are fairly short, which is the reason for their width. However, one of the date formats is day of the week, month day, year (Thursday, October 31, 2020). This needs a larger width than 10/31/2020 or 31/10/2020 for example.

First, all of the payment type controls need to be modified. The fields need to be replaced with a list box, and each needs to be related to an existing field in the table, Payment Type. The rest of the controls require modification based upon the category into which they fall.

Note

The steps that follow assume that the Payment Type table already contains three single-field records. These might be Cash, Dan, and Kevin. If necessary you could use the Form Wizard to create a very simple form to input or edit these values.

We will carry out the following steps:

1) Replace fields with list boxes.
2) Modify text controls (label field first and then the data field).
3) Modify date control.
4) Modify formatted controls.
5) Modify fields in the table.
6) Group the controls (food, fuel subform, and miscellaneous).
7) Modify memo control.
8) Add headings (for each group in the form).
9) 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.
10) Change tab order of fields.

Figure 237 shows a section of the Form Design toolbar, identifying key icons that will be used during the following steps. Figure 238 shows the Form Navigator.
Step 1: Replace fields with list boxes

1) Use the Control Properties and Form Navigator icons on the Form Design toolbar to open the corresponding dialogs. (You may need to select a control for the Control Properties icon to become available)

2) Going down the list of labels and fields in the Form Navigator, click the first text box whose name contains the word “Payment”.

3) If both the label and text box components of the field are highlighted in the Form Navigator, double-click the text box so that only it is highlighted.

4) Right-click the text box in the Form Navigator and select Replace with > List Box in the context menu.

5) In the Properties dialog, the heading becomes Properties: List Box.

6) The General tab is selected, so scroll down to the Dropdown property. Change No to Yes.

7) Click the Data tab.

8) Go to Type of list contents. Change Valuelist to Sql.

9) The line below this becomes List content. Click the ellipsis (…) to the right of this property.
10) Base opens the SQL Command – LibreOffice Base: Query Design window and the Add Table or Query dialog. The Payment Type table has the entries that are required. Click it, and then click the Add button. Close the Add Table or Query dialog.

11) In the SQL Command – LibreOffice Base: Query Design window, double-click Type in the table named Payment Type. This places Type in the Field row of the tabular area.

12) Save and close this window. The SQL code appears in the List content property. (SELECT "Type" FROM "Payment Type")

13) Change the Bound field value from 1 to 0.

14) Repeat these steps for each field containing the word “Payment”, six fields in total. (See Note below before doing this.)

**Tip**

There are times, as in this example, when 8) through 12) produces the same SQL code. When this happens, copy the code. Paste the code into the Type of list contents property before doing 13). It is a nice shortcut.

**Step 2: Modifying text controls**

These are limited to controls whose fields begin with txt. This is when the labels and fields are modified if necessary to make them more meaningful. In this example, all but one control contains the word “Payment”. The content of these are payment types which determines that name given to them. The other one is named Note.

Next the size of the controls needs to be modified based upon the contents they will contain. Because it is hard to determine beforehand just how large the Note control needs to be, this will be done after all of the other controls are arranged in a more compact order. The rest of the controls with text will have their sizes changed now.

1) Rename the labels.
   
   a) Locate the topmost text control in the Form Navigator.
   
   b) Select the associated the control label (begins with lbl). Make sure that the title of the Properties dialog has become Label Field.
   
   c) Click the General tab if it is not already selected.
d) Click the down arrow at the right end of the Label property to open the drop-down. Only then rename the label to Payment Type and press Enter.

e) Click on another property to save this change.

f) Adjust the width of the label field if necessary for the new width of the label name.

g) Repeat a) through f) for each label field in the form that contains the word Payment.

**Note**
This database form contains multiple controls with the same label: Payment Type. When this name has been entered for the first time, it can be copied. In d) for the next label, highlight the current label name, paste the name you want, and click another property.

2) Resize the fields.

a) Make sure that you are in the edit mode, with the Form Navigator and Properties dialogs open.

b) In the Form Navigator dialog, click the field whose size you want to change.

c) Scroll down to the Width property in the Properties dialog.

d) Estimate the width required based on the set of possible values for this field and change the Width property to that value. In the case of our Payment Type fields, the text box should be wide enough for the longest possible payment type value of “Kevin”.

e) Click either the PositionY or the Height property to save the change. (These are adjacent properties, but clicking on any other property will do the same thing.)

f) Use these same steps to change the size for each of the remaining text controls, including txtSnackNo and all the payment type fields.
Step 3: Modify date control

1) With the Properties and Form Navigator dialogs open, select the `datDate` field in the Form Navigator dialog. The heading of the Properties dialog changes to Properties: Date Field.

2) In the General tab of the Properties dialog, scroll down to the Date format property. In the drop-down list, select the date format you desire.

3) Scroll down to the Dropdown property and select Yes.

4) Is the width of the Date field inappropriate for the selected format? If so:
   a) The Date field has a border around it.
   b) Move the cursor over the middle green marker on the right side of the Date field. It should become a horizontal double arrow. Drag this to the right to increase the width. Drag it to the left to reduce the width. (It may take several attempts to get this right.)

Step 4: Modify formatted controls

At each step, instructions have been given for which changes need to be made. With the help of the Form Navigator, make a list of the formatted fields and their labels. The fields are those with the prefix, `fmt`. (There are eight of them.)

One of these fields, Odometer, contains the odometer readings as integers. The rest are currency fields. Selecting the correct format follows the same steps.

Working with one control at a time perform the following tasks:

1) Check that the label of the control provides the annotation that you require. In the case of `lblSnCost`, change it to Snack Cost.

2) Click the label of the control to be modified in the Form Navigator. If the border for the label is longer or shorter than the text in the label, adjust its width as described for the Date field above.

3) Click this formatted field in the Form Navigator list.
   a) Under the General tab, scroll down to the Formatting property.
   b) Click the ellipsis (…) on the right to open the Format Number dialog.
   c) For the Odometer field click Number in the Category list, otherwise click Currency.
   d) Under Format, select the example to be used.
   e) Select the desired number of decimal places (one for Odometer, two otherwise).
   f) Select the desired number of leading zeros.
   g) Negative numbers red: check if yes, remove the check if no.
   h) Thousands separator: check if yes, remove check if no.
   i) Click OK.
   j) If the width of the field is not correct for the selected format, adjust its width as described for the Date field above.

4) Repeat these steps for each field name in the Form Navigator that begins with `fmt`.

Step 5: Modify fields in the table

The labels in these controls form the headings of the columns. The values of the field are in the column. The Form Navigator does not show any information about them. So modifications must be done using the Properties dialog.
The controls in a table control require the same types of modification as have already been discussed. To change things, click the header to be able to access that particular control’s properties.

1) Click the *Date* label (the column named *Date*).
   a) Scroll to the *Date format* property. In the drop-down list, select the format you desire, if different from the default setting.
   b) Scroll to the *Width* property. Adjust the width if necessary.
   c) Scroll to the *Dropdown* property. If you want to have a small calendar pop-up window, select Yes.

2) Click the *FuelCost* label.
   a) Open the drop-down list for the *Label* property. Add a space between *Fuel* and *Cost*. Press Enter.
   b) Scroll to the *Formatting* property. Click the ellipsis (…) on the right. Select *Currency* from the Category column. Uncheck *Negative numbers red* and *Thousands separator*. Click OK.
   c) Scroll to the *Width* property. Adjust the width if necessary.
   d) Change the *Alignment* property if you do not want data to be to the left. Select Center to put the data in the middle of the cell.

3) Click the *FuelQuantity* label.
   a) Open the drop-down list for the *Label* property. Add a space between *Fuel* and *Quantity*. Press Enter.
   b) Scroll to the *Formatting* property. Change if needed to show three decimal places.
   c) Scroll to the *Width* property. Adjust the width if necessary.
   d) Change the *Alignment* property if you do not want data to be to the left. Select Center to put the data in the middle of the cell.

4) Click the *Odometer* label.
   a) Scroll to the *Formatting* property. Change if needed to show one decimal place.
   b) Scroll to the *Width* property. Adjust the width if necessary.
   c) Change the *Alignment* property if you do not want data to be to the left. Select Center to put the data in the middle of the cell.

5) Click the *PaymentType* label.
   a) Right-click this label to open a context menu to add a list box. Select Replace with > List Box in the context menu.
   b) Open the drop-down list for the *Label* property. Add a space between *Payment* and *Type*. Press Enter.
   c) On the Data tab, change the *Type of list contents* property to Sql.
   d) Paste the SQL code `SELECT "Type" FROM "Payment Type"` into the *List content* property. (This is a shortcut method – see the Tip on page 269 and the detailed instructions above it if you want more details).
Step 6: Group the controls

This is a suggested layout which looks reasonably well organized. Use this one or create one that appeals to you. The controls may be wider or narrower than yours because of the content that will be in them. Note that this layout has left space for the additional labels that will be added later.

1) Three icons need to be activated on the Form Design toolbar: **Display Grid**, **Snap to Grid**, and **Helplines While Moving**. If this toolbar is on the side of the form, click the double arrow (») to open a sub toolbar showing them. If the toolbar is on the top or bottom of the form, they are on the right end of it. If there is a double arrow at the end, click it to reveal them. Make sure they are highlighted as in this figure.

![Figure 239: Help for moving controls](image)

**Tip**

You can also control the **Display Grid**, **Snap to Grid**, and **Helplines While Moving** options using the **View > Grid and Helplines** menu.

2) Some of the controls need to be moved in pairs so the Form Navigator needs to remain open. Close the Properties dialog now.

![Figure 240: Form suggested layout](image)
When moving a control, it is tempting to use the PositionX and PositionY properties to place the control exactly where you want it to be. **Do not do this.** This will place the control's label and field on top of each other. These properties can be used to move a label or field to a specific location, but are not designed to move a control. Use the **Position and Size** icon on the Form Design toolbar to move a control or group of selected controls.

The list in the Form Navigator reveals which controls needed to be grouped based upon their names:

- `lblMotel` / `fmtMotel` with `lblMPayment` / `txtMPayment`;
- `lblBreakfast` / `fmtBreakfast` with `lblBPayment` / `txtBPayment`;
- `lblLunch` / `fmtLunch` with `lblLPayment` / `txtLPayment`;
- `lblSupper` / `fmtSupper` with `lblSPayment` / `txtSPayment`;
- `lblSnackNo` / `txtSnackNo` with `lblSnCost` / `fmtSnCost` and with `lblSnPayment` / `txtSnPayment` (group these three controls together);
- `lblMiscellaneous` / `fmtMiscellaneous` with `lblMiscPayment` / `txtMiscPayment`.

That is six groups of controls; each one will be moved separately.

The layout shows, for each of these groups, an order as to where each control of a group goes. For most of them, the first control holds the cost, and the second contains the payment type in a row. The snacks places the number of snacks followed by the cost and then the payment type. The miscellaneous controls contains the payment below the cost.

3) **Before moving an entire group to a new location, move the controls within the group to where you want them to be relative to each other, such as the order mentioned in the last paragraph.**
   
a) Click on the first control, placing a border around it.
   
b) Place the cursor over the label or field where it changes its shape.
   
c) Drag it to an open area of the form.
   
d) Using the same method, move the second control to the correct position relative to the first control.

   As soon as you begin to move it, the helplines will appear. Use them to line up the edges of the controls before releasing the cursor.

   e) If there is a third control, move it to the correct position relative to the second one.

4) Move the controls for the group to where you want them:
   
a) Click the first component in the Form Navigator list.
   
b) Use the standard **Control+Click** and **Shift+Click** mechanisms until all of the labels and fields in this group are highlighted.
   
c) Place the cursor over one of the labels or fields changing the arrow.
   
d) Drag the group to where you want its controls to be.

5) Repeat for the other controls using these same steps. If a group is going to be below another group of controls, use the helplines to line up the left end of the two groups (for example: first control under left control).
Step 7: Modify memo control

The size of the Note control allows it to be moved into a place on the form that permits the controls of the form to be organized without changing the size of the Note control. This might not always be the case. If the size had needed modification, this is done using the same methods as for other text controls.

The other modification is adding scrollbars. The choices are none, vertical, horizontal, or both.

1) To change the size of this control, follow the same steps for changing the size for any text control.

2) If necessary, move the control to the required position using the same steps described above for grouping the controls (Step 6).

3) Click the Control Properties icon on the Form Design toolbar if the Properties dialog is not open.

4) Select the txtNotes control in the Form Navigator dialog.

5) On the Properties dialog, click the General tab if it is not selected.

6) Scroll down to the Text type property.

7) Select the Multi-line option in its drop-down list.

8) Scroll down to the Scrollbars property.

9) In its drop-down list, select the option you need (None, Vertical, Horizontal, or Both).

10) Close the Properties dialog.

Step 8: Add headings

This task is easier to complete if you have end-of-paragraph markers visible. You should turn them on by selecting View > Formatting Marks, or by clicking the Toggle Formatting Marks icon on the Standard toolbar, or by pressing Ctrl+F10.

1) Make sure that the cursor is in the top left hand corner of the Database Form window. If it is not, click in that corner to move the cursor there.

2) Press the Enter key repeatedly to move the cursor down until it aligns with the gap between the Date field and the Breakfast field.
3) Use the *Set Paragraph Style* drop-down list on the Formatting toolbar to select the *Heading 2* style.

4) Use the space bar to move the input cursor along the empty line to the position where you want the first heading to appear. Type the heading *Meals*.

5) Use the space bar to move the input cursor along the same line to the position where you want the second heading to appear. Type the heading *Snacks*.

6) Press the *Enter* key repeatedly to move the cursor down until it aligns with the gap between the *Supper* field and the table.

7) If necessary, use the *Set Paragraph Style* drop-down list on the Formatting toolbar to re-select the *Heading 2* style.

8) Use the space bar to move the input cursor along the line to the position where you want the table’s heading to appear. Type the heading *Fuel Data*.

**Tip**

If you know how to use styles, you can open the Styles deck by selecting *View > Styles*, or by pressing *F11*. Right-clicking the *Heading 2* style and selecting the *Modify* option in the context menu would allow you to quickly modify the appearance of all three headings. See the *Writer Guide* for details.

**Step 9: Change the background**

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 > Application 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 and select *Page Style* in the context menu.
2) Base displays the Page Style dialog (Figure 242). Make sure the *Area* tab is selected.
3) Select *Color* in the row of buttons near the top of the tab.

![Figure 242: Page Style dialog](image)
4) Select a color from the grid. You can change the color palette to access more choices or use the RGB or Hex boxes to specify a color, or click Pick for even more choices.

5) Click Apply to see what your selection will look like in your form.

6) Change if necessary.

7) Click OK to accept your color choice and close the dialog.

To add other form backgrounds:

1) Perform steps 1) and 2) as for adding color to the background.

2) Select the type of background from the row of buttons: None, Gradient, Bitmap, Pattern, or Hatch.

3) In the selected type, choose one of the selections provided or create your own. For details, see Chapter 4, Changing Object Attributes, in the Draw Guide.

4) Click Apply to see what your selection will look like in your form.

5) Click OK to accept your choice and close the dialog.

If you selected a bitmap in the list, the form might look like Figure 243.

![Finished form](image)

Figure 243: Finished form

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.
1) If it is not open already, select **View > Toolbar > Form Design** to open the Form Design toolbar.

2) Click the **Activation Order** icon (circled in Figure 244).

3) Rearrange the order of the fields in the Tab Order dialog.
   
   a) If you click the **Automatic Sort** button, Base will interpret the structure of your form and propose what it considers to be a sensible tab order.
   
   b) You can use the **Move Up** and **Move Down** buttons to change the position of a selected control in the list.
   
   c) You can drag a control from one position to another in the Controls list.
   
   d) You may chose to define your own tab order, or you could put the fields in the same order as that shown in Figure 245.
   
   e) Click **OK**.

4) Save and close the form.

5) Save the database.

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![Figure 244: Form Design toolbar with Activation Order icon circled](image)

![Figure 245: Possible tab order for the Vacations form](image)
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 221).

1) Click the Forms icon in the Database list, or select View > Database, or press Alt+M.
2) Find the form’s name in the Forms list (Vacations).
3) Double-click the form’s name.

Note

The order in which the following descriptions are presented assume a particular tab order for the form, and this may not match the tab order that you want to define.

The quickest way to enter a date in the Date field is to click the arrow that opens the drop-down calendar (Figure 246) and click the day that you want. Then press the Tab key to go to the next field.

The Odometer, Tolls, and Motel fields are numeric fields. Enter values directly into them, or use the up and down arrows (if you selected to display them during form creation). When the value has been entered, use the Tab key to go to the next field.

- Typing the up arrow increases the value, and the down arrow decreases the value by one unit.
- The 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 Type 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 next field.

The rest of the fields of the main form are either numeric fields or drop-down lists until we reach the Notes field. It is a text field. Type anything you desire in this field just as you would any simple text editor.
The Tab key is used to move between fields. But since text fields do not have tab positions in them, they cannot be used to move from one position in the field to another one. All spacing must be done by the space bar. The Enter key is a little more complex. It can be used to move between non-text fields. With a text field, its action depends upon whether the text field has a single line property. With it, pressing Enter will move the cursor to the next field. But when the field has a multi-line property, pressing Enter moved will only move the cursor down one line. With this field, the Tab key has to be used to move the cursor to the next field.

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 Fuel Cost, Fuel Quantity, and Odometer fields are numeric fields. The Payment Type 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 Type 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.

![Figure 247: Sample record of the Vacations form and subform](image)
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* (all have keyboard shortcuts identified in their extended tips). To the right of these arrows is the *New Record icon*.

To create a new record while in the 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 type *Enter* to take you to that record.

Figure 247 is a record with data inserted in its fields.

**Quickly populate a table with data from a spreadsheet**

If you have data in a spreadsheet document that represents the layout of a database table, and you want to copy it into a table of your database, then it is possible to load the sheet contents quickly by dragging and dropping the sheet into a database table:

1) Open the database file in the LibreOffice Base window (Figure 221) and select the Table view.

2) Open the spreadsheet in Calc. Select the sheet you want to insert in the database.

3) Place the two windows side by side on your desktop.

4) Drag the sheet tab in the bottom of the Calc window into the table list of the database file. The mouse pointer shows a square with a + sign. (Sheet tab: This has the name of the sheet on it.)

5) Drop the sheet by releasing the mouse button.

6) The Copy table wizard appears to help you migrate the content to the database table.

7) On the first page of the wizard, select the options of the copy operation and name the database table. Each option is explained in the Help (F1).

8) On the second page of the wizard, select the sheet columns you want to copy into the table.

9) On the third page of the wizard, define the data type of each column of your table.

10) Click **Create** to populate the new table with the spreadsheet data.

**Note**

The Copy table operation copies only values and strings from the Calc spreadsheet. It does not copy formulas.
Creating queries

Queries are used to get specific information from a database. Their 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 Query 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 Query 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 221), click the Queries icon in the Database section, select View > Queries, or press Alt+Q. In the Tasks section, click Use Wizard to Create Query. The Query Wizard dialog opens (Figure 248). The information we want is which albums are by a certain musical group or individual (the album’s artist). We can include when each album was bought.

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 Vacations table used in a query has the name Vacations.Lunch.

![Figure 248: First page of the Query Wizard](image)

Step 1: Select the fields

1) Select the Table: CD-Collection option in the Tables drop-down list.
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. You can also move a single field from one list to the other by double-clicking.

c) If you make a mistake, you can return an unwanted field from the *Fields in the Query* list to the *Available fields* list by selecting it and then typing the < button.

d) In other circumstances, you can use the >> and << buttons to move all fields in one list to the other list.

3) 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.

---

**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 249: Sorting order page](image)

1) Click the first *Sort by* drop-down list.
   a) Select the *CD-Collection.Artist* option.
   b) To list the artists in alphabetical order (a-z), select **Ascending** on the right.

2) Click the first *Then by* drop-down list.
   – Select *CD-Collection.AlbumTitle* and then select **Ascending**.

3) Click the second *Then by* drop-down list.
   – Select *CD-Collection.DatePurchased* and then select **Ascending**.

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. The following options are available:

- *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
• *not like*: is not similar to
• *is null:*
• *is not null:*

**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** drop-down and **is equal to** in the **Condition** drop-down.
3) Type the name of the artist in the **Value** box.
4) Click **Next**.

**Step 4: Select the type of query**
We want simple information, so the default setting: **Detailed query** is what we want. Click **Next**.

**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 without separation. Instead, aliases can be made containing two words each (**Album Title** and **Date Purchased**, respectively).

1) Change the alias for **AlbumTitle** to **Album Title**.
2) Change the alias for **DatePurchased** to **Date Purchased**.
3) Click **Next**.

**Step 8: Overview**
1) Make sure that the query conditions listed in the **Overview** area are the ones you wanted.
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 return to this **Overview** step.
4) Name the query (suggestion: **Query_Artists**).
5) To the right of this are two choices. Select **Display Query**.
6) Click **Finish**.

Base displays the LibreOffice Base: Table Data View query showing any records that match the query. Close the window when you have finished with it.
Using 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 us to create 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** in the **Tasks** area of the main window. Base displays the Add Table or query dialog (Figure 250) and the LibreOffice Base: Query Design window.

Step 2: Add tables to window

1) In the Add Table or query dialog, click **Fuel** to highlight it.  
2) Click **Add**.  
3) Click **Close**.  
4) Base closes the Add Table or Query dialog and includes the Fuel table in the upper area of the Query Design window.

**Figure 250: Add Table or Query dialog**

**Tip**

Move the cursor over the bottom edge of the Fuel table (Figure 251) and drag the edge to make it longer and easier to see all of the fields in the table.
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.
4) Double-click the *FuelCost* field.

The query table at the bottom of the Query Design dialog should now have four columns (Figure 252).

<table>
<thead>
<tr>
<th>Field</th>
<th>FuelID</th>
<th>Odometer</th>
<th>FuelQuantity</th>
<th>FuelCost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alias</td>
<td>Fuel</td>
<td>Fuel</td>
<td>Fuel</td>
<td>Fuel</td>
</tr>
<tr>
<td>Table</td>
<td>Fuel</td>
<td>Fuel</td>
<td>Fuel</td>
<td>Fuel</td>
</tr>
<tr>
<td>Sort</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
<td>✅</td>
</tr>
</tbody>
</table>

Step 4: Set the criterion for the query

We want the query to include FuelID values that are greater than 0.

1) Type >0 in the *Criterion* cell under *FuelID* in the query table.
2) Click the *Run Query* icon on the Query Design toolbar (circled in red in Figure 253), or click *View > Run Query*, or press F5.

Base presents the results of the query in the area above the query table.

Figure 254 shows the Fuel table with my entries. The query results based upon the Fuel table are shown in Figure 255.

<table>
<thead>
<tr>
<th>FuelID</th>
<th>Date</th>
<th>FuelCost</th>
<th>FuelQuantity</th>
<th>Odometer</th>
<th>PaymentType</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>07-01-21</td>
<td>$16.00</td>
<td>14,690</td>
<td>704,0</td>
<td>Kevin</td>
</tr>
<tr>
<td>1</td>
<td>07-01-21</td>
<td>$7.00</td>
<td>6,430</td>
<td>778,7</td>
<td>Dan</td>
</tr>
<tr>
<td>2</td>
<td>07-01-21</td>
<td>$20.00</td>
<td>19,570</td>
<td>1032,0</td>
<td>Dan</td>
</tr>
<tr>
<td>3</td>
<td>07-01-21</td>
<td>$16.00</td>
<td>15,150</td>
<td>1239,4</td>
<td>Cash</td>
</tr>
<tr>
<td>4</td>
<td>07-01-21</td>
<td>$16.00</td>
<td>14,114</td>
<td>1493,4</td>
<td>Kevin</td>
</tr>
</tbody>
</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** in the **Tasks** area of the main window to open a new query.

2) Base opens the LibreOffice Base: Query Design window and the Add Table or Query dialog.

3) Add the Fuel table to the query just as you did in **Step 2: Add tables to window** but do **not** close the Add Table or Query dialog.

4) Add the End-Reading query to this query.
   a) Click **Queries** to get the list of queries in the database (Figure 256).
   b) Click **End-Reading**.
   c) Click **Add**, and then click **Close**.
   d) Base closes the Add Table or Query dialog and displays the Fuel table and End-Reading query in the upper area of the Query Design window.

**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 fuel quantity and distance traveled. Since the fuel quantity 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 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.

### Figure 258: 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 259).
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 next empty Field cell (Figure 260):
     "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 261).
6) Type Fuel Economy as the alias.

### Figure 259: Typing in calculation of fields
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 261.

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.

1) Click the **Run Query** icon on the Query Design toolbar (Figure 253). The results are shown in Figure 262.

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 263.
3) Run the query again. The results are in Figure 264.

![Figure 264: Query run with aliases](image)

**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 RDBMS manuals, is also extremely useful.

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**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 (see Figure 259). 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, Tolls, Breakfast, Lunch, Supper, Snack Cost, and Miscellaneous. This report only requires the Vacations 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 area of the main Base window (Figure 221), or select View > Reports, or press Alt+R.

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 SnCost. The other buttons (<, >>, <<, up arrow, and down arrow) and the double-click action perform similar functions to the equivalent interactions on other wizard pages as described earlier in this chapter.
3) Click **Next**.

![Figure 265: Adding fields to a report](image)

Step 2: Labeling fields
Change any field labels you wish. We will shorten *Miscellaneous* to Misc. and expand *SnackCost* into two words.

![Figure 266: Giving aliases to fields](image)

1) Shorten *Miscellaneous* to Misc.
2) Change *SnCost* into *Snack Cost*.
3) Click **Next**.

Step 3: Grouping
1) Since we are grouping by the date, use the > button to move the *Date* field from the *Fields* list to the *Groupings* list.
2) You can use the < button to return an entry in the *Groupings* list to the *Fields* list. You can use the up and down arrows to re-order entries in the *Groupings* list. You can double-click to move a field from one list to the other.
3) **Click Next.**

![Figure 267: Selecting fields for grouping data](image)

**Step 4: Sort options**
We do not want to do any additional sorting.

- **Click Next.**

**Step 5: Choose layout**
1) Select **Columnar, three columns** in the *Layout of data* list.
2) *Layout of headers and footers* have no possible selections.
3) Select **Landscape** as the *Orientation* for the page layout.
4) **Click Next.**

![Figure 268: Report Builder template determined by the Report Wizard](image)

**Figure 268** shows part of the final template that has been built up in the Report Builder as you reach the end of the wizard.

**Step 6: Create report**
1) Title the report: *Vacation Expenses*.
2) Select the **Dynamic report** option.
3) Select the **Create report now** option.
4) **Click Finish.**
5) LibreOffice opens the output report in read-only mode in Writer.

The report (Figure 269) 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.
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 Guide.

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) Select File > New > Database, or click the arrow at the right of the New icon on the Standard toolbar and select the Database option in the menu, to open the Database Wizard.
2) Select Connect to an existing database. Select the required database type in the drop-down list. Click Next.
3) The remaining steps in the Database Wizard may vary depending on which database type you have chosen.
4) At some stage the wizard may prompt you to browse to, and select, the database of interest. You will normally select to register the database and open the database for editing.
5) Finally, click Finish to exit the wizard. Name and save the database in the location of your choice.

Accessing a spreadsheet as a data source

Accessing a spreadsheet is similar to accessing other databases:

1) Select File > New > Database, or click the arrow at the right of the New icon on the Standard toolbar and select the Database option in the menu, to open the Database Wizard dialog.
2) Select Connect to an existing database. Select Spreadsheet in the drop-down list. Click Next.
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) Make sure that the **Yes, register the database for me** and **Open the database for editing** options are selected.

5) Click **Finish** to exit the wizard. Name and save the database in the location of your choice.

**Note**

Using this method of accessing a spreadsheet, you cannot change anything in the spreadsheet using Base. 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 Database) 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**. LibreOffice displays the Create Database Link dialog.

3) **Browse** to where the database is located. Make sure the registered name is correct.

4) Click **OK**.

**Note**

Sometimes after updating LibreOffice to a newer version, your list of registered database files disappears. When that happens, you can use these steps to re-register your database files with your latest version of LibreOffice.

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**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 **Ctrl+Shift+F4** or select **View > Data Sources**. This brings up a list of registered databases, which will include Bibliography and any other registered database, such as the Automobile database created earlier in this chapter.

To view each database, click the drop-down arrow for the database’s name (Figure 270). This expands to show **Queries** and **Tables**. Click the drop-down arrow for **Tables** to view the individual tables created. Now click on a table to see all the records held in it.
Editing data sources

Some data sources (but not spreadsheets) can be edited in the Data Sources 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 Sources 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 small 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.

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 in the context window to remove the selected row.

Launching Base to work on data sources

You can launch LibreOffice Base at any time in the Data Sources window. Just right-click on a database or its Tables or Queries components and select Edit Database File in the context menu. 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 Sources 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.
**Tip**

Choosing **Tools > Mail Merge Wizard** or clicking on the **Mail Merge** icon (circled in red in Figure 273) in the Data Sources window launches the Mail Merge Wizard which steps you through creating a mail merge document. See Chapter 14 in the **Writer Guide**.

**Writer documents**

To insert a field from a table opened in the Data Sources 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 (`Ctrl+Shift+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 Sources window and drag it to the right of the word **On**. Insert an extra space if necessary. The result: **On <Date>**. If you have field shadings turned on (**View > Field Shadings**), `<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 274.
   - Click the **Data to Fields** icon in the Table Data toolbar (circled in Figure 274). 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 reflect this selected row of data.
   - Save the document if you want to use it as an example later.

---

Figure 274: Selected row in Data Sources 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) Ctrl+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 275). (The Data to Text icon is to the left of the Data to Fields icon in Figure 274.)

![Figure 275: Insert Database Columns dialog](image)

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 right 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.
   - To use all of the fields, use the double arrow pointing to the right to move all of them at one time (this icon may have a different appearance in some environments). 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.
– You can double-click a field in one list to move it to the other list.

5) To start over, click the double arrow pointing to the left (this icon may have a different appearance in some environments).

6) Select the settings for your table. Use the default settings as in Figure 275.

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 Ctrl+Shift+F4 to open the Data Sources 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 (the row header) you want to select if only selecting one row. That row is highlighted.
   – To select multiple rows, hold down the Ctrl 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 Sources window open, your spreadsheet open, and the table you want to use selected.

1) Drag and drop the gray box containing the field name for the table's ID field (the column header) to where you want the record to appear in the spreadsheet.

2) Repeat until you have copied all of the fields you need to where you want them in the spreadsheet.

3) Select File > Save, or click the Save icon on the Standard toolbar, to name and save the spreadsheet. Close the file.

Next time you open the spreadsheet, the fields will be populated with data from the first record of the table, and the Form Navigation toolbar will appear at the bottom of the spreadsheet.

Click the arrows on the Form Navigation toolbar to view the different records of the table. (The arrows are circled in red in Figure 276.) The number in the box changes when you change the record number by clicking an arrow. The data in the fields changes to reflect the data for that particular record number.

![Figure 276: Navigation arrows of a form](image-url)
Chapter 9
Getting Started with Math

LibreOffice’s Formula (Equation) Editor
**Introduction**

Math is a formula editor module included with LibreOffice that allows you to create or edit formulas (equations) in a symbolic form, within LibreOffice documents or as stand-alone objects. Example formulas are shown below:

\[
\frac{df(x)}{dx} = \ln(x) + \tan^{-1}(x^2) \quad \text{or} \quad \text{NH}_3 + \text{H}_2\text{O} \rightleftharpoons \text{NH}_4^+ + \text{OH}^-
\]

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, \( \frac{a}{b} \) using markup language 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**

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 277):

- On the Menu bar, go to **File > New > Formula**.
- On the Standard toolbar, click the triangle to the right of the **New** icon and select **Formula**.
- In the Start Center, click **Math Formula**.
- From within LibreOffice Math, use the keyboard shortcut **Ctrl+N**.
- You can also launch Math from the command line using **libreoffice --math**
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 Dock to the left of the Preview window may also appear, if these have been selected in View on the Menu bar. Figure 278 illustrates how to enable the Elements dock in Math. For more information on creating formulas, see “Creating formulas” on page 303.

![Figure 278: Enabling the Elements Dock](image)

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, then select Create new option, choose the Object Type "LibreOffice Formula" and then click OK to open the Formula Editor. The Elements Dock to the left of the Preview window and/or the Elements dialog as a floating dialog may also appear, if these have been selected in View on the Menu bar.

Figure 279 shows an example Writer document with the formula box selected ready for a formula to be entered.

When you have completed entering the markup language for your 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 change how the object is placed within the document, as with any OLE object. For more information on OLE objects, see “Formulas in Writer” on page 322, “Formulas in Calc, Draw, and Impress” on page 327, and the user guides for 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 “Customization” on page 329 for more information.

Creating formulas

You can insert a formula using one of the following methods:

- In the Elements dock, select a category in the drop-down list, then a symbol.
- Right-click in the Formula Editor and select a category, then a symbol in the context menu.
- Enter markup language directly in the Formula Editor.

**Note**

Using the Elements dock or the context menus to insert a formula provides a convenient way to learn the markup language used by Math.

**Tip**

When using the Elements dock, it is recommended to have Extended 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 Extended tips in the Help section.
### Elements dock

The Elements dock can be used when entering formula data.

1. Go to **View > Elements** on the Menu bar to open the Elements dock (Figure 280).
2. Select the category you want to use in your formula in the drop-down list at the top of the Elements Dock.
3. Select the symbol you want to use in the formula in the Elements Dock. The symbols that are available change according to the selected category.
4. After choosing one of the symbols in the Elements Dock, the Formula Editor will be updated with the Markup notation of the selected symbol.

![Elements dock](image)

**Figure 280: Elements dock**

---

#### Note

The Elements dock can either be a floating dialog, as shown in Figure 280, or positioned to the left of the Formula Editor, as shown in Figure 277 and Figure 279.

#### Tip

The Elements Dock also provides an Examples category which provides example formulas to use as a starting point for your formula or equation.

---

### 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 in the sub-context menu. An example is shown in Figure 281.

---

#### Note

The Elements Dock and the context menu contain only the most common commands that are used in formulas. To insert other symbols and commands not listed in the Elements Dock and context menu, you have to enter them manually using the markup language. For a complete list of commands and symbols available in Math, see Appendix A, Commands Reference, in 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 \(5 \times 4\). If you are experienced in using markup language, it can be the quickest way to enter a formula. Table 4 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 Appendix A, Commands Reference, in the Math Guide.

Table 4: Example commands using markup language

<table>
<thead>
<tr>
<th>Display</th>
<th>Command</th>
<th>Display</th>
<th>Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a=b)</td>
<td>(a = b)</td>
<td>(\sqrt{a})</td>
<td>(\text{sqrt}{a})</td>
</tr>
<tr>
<td>(a^2)</td>
<td>(a^2)</td>
<td>(a_n)</td>
<td>(a_n)</td>
</tr>
<tr>
<td>(\int f(x),dx)</td>
<td>(\text{int}\ f(x),dx)</td>
<td>(\sum a_n)</td>
<td>(\text{sum}\ a_n)</td>
</tr>
<tr>
<td>(a \leq b)</td>
<td>(a \leq b)</td>
<td>(\infty)</td>
<td>(\text{infinity})</td>
</tr>
<tr>
<td>(a \times b)</td>
<td>(a \times b)</td>
<td>(x \cdot y)</td>
<td>(x \text{ cdot} y)</td>
</tr>
</tbody>
</table>
**Greek characters**

*Using markup language*

Greek characters are commonly used in formulas, but they cannot be entered into a formula using the Elements dock 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 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 > Symbols on the Menu bar, or click the Symbols icon in the Tools toolbar, to open the Symbols dialog (Figure 282).
3) Select Greek in the Symbol set drop-down list. For italic characters, select iGreek in the drop-down list.
4) Double-click the Greek character you want to insert or select it and click Insert. When selected, the name of the character is shown below the symbol list.
5) Click Close when you have finished entering Greek characters into your formula.

![Symbols dialog](image)

*Figure 282: Symbols dialog*
Formula examples

Example 1
The simple formula $5 \times 4$ 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 Dock, select **Unary/Binary Operators** in the drop-down list and then select the **Multiplication** icon $\times$.
   - Right-click in the Formula Editor and select **Unary/Binary Operators > a times b** in the context menu.
   - Using markup language, enter $5 \times 4$ in the Formula Editor.
   - The first two methods place the formula text $<?> \times <?>$ in the Formula Editor and the symbol appears in the document. For the third method, using markup language in the Formula Editor places the formula $5 \times 4$ directly into the document and there is no need to carry out the following steps.

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.

**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 the F9 key or select View > Update on the Menu bar.

Example 2
You want to enter the formula $\pi \approx 3.14159$ 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 $\approx$.

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 ($\pi$).
3) Select the category **Relations** and symbol **Is Similar Or Equal** using one of the following methods:
   - In the Elements dock, select **Relations** in the drop-down list and then select the **Is Similar Or Equal** icon $\approx$.
   - Right-click in the Formula Editor and select **Relations > a simeq b** in 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 $\pi \approx 3.14159$ 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 in the context menu, to open the Formula Editor and enter 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 using one of the following methods:
   – Click on the formula element in the Preview window, positioning 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 on the Tools toolbar to update the formula in the Preview window or your document.

6) In Math, save your changes to the formula after editing.

7) In Writer, Calc, Impress, or Draw, click anywhere in the 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 lay out complex formulas in Math or in your LibreOffice document.

Using braces

LibreOffice Math knows nothing about order of operations within a formula. You need to use braces (curly brackets) to define the order of operations. The following examples show how braces can be used in a formula.

Example 1

\[ \frac{2}{x+1} \]

gives the result \( \frac{2}{x+1} \)

Math has recognized that the 2 before and the x after the over command as belonging to the fraction, and has represented them accordingly. If you want \( \frac{x+1}{x} \) rather than \( \frac{x}{x+1} \) to be the denominator, you must bracket them together using braces so that both will be placed there.
Inserting braces into \( \frac{2}{x+1} \) gives the result \( \frac{2}{x+1} \) where \( x+1 \) is now the denominator.

**Example 2**

\(-\frac{1}{2}\) 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 into the markup language \(-\{1 \over 2\}\) gives the result \( \frac{-1}{2} \) 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 a formula, use the commands `\lbrace` and `\rbrace` within the markup language.

\[ \frac{x}{-x+1} \] gives the result \( \frac{x}{-x+1} \)

Replace the braces using the commands `\lbrace` and `\rbrace` in the markup language.

Write \( \frac{x}{\lbrace -x + 1 \rbrace} \) and the result is \( \frac{x}{-x+1} \)

---

**Brackets (parentheses) and matrices**

If you want to use a matrix in a formula, you have to use the `matrix` command. Below is a simple example of a 2 x 2 matrix.

\[
\begin{bmatrix}
a & b \\
c & d
\end{bmatrix}
\]

In matrices, 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. The example below shows a formula where the parentheses do not scale to the size of the resulting matrix.

\[
( \begin{bmatrix} a & b \\ c & d \end{bmatrix} )
\]

To overcome this problem of brackets in a matrix, LibreOffice Math provides scalable brackets that grow in size to match the size of the matrix. The commands `\left(` and `\right)` have to be used to create scalable brackets around a matrix. The following example shows how to create a matrix with scalable parentheses.

\[
\left( \begin{bmatrix} a & b \\ c & d \end{bmatrix} \right)
\]

Scalable brackets can also be used with any element of a formula, such as fraction, square root, and so on.
If you want to create a matrix where some values are empty, you can use the grave accent (`) so that Math will put a small space in that position, as shown in the example below:

\[
\begin{pmatrix}
1 & 2 & 3 \\
4 & \text{`} & 6
\end{pmatrix}
\]

\[
\begin{pmatrix}
1 & 2 & 3 \\
4 & 6
\end{pmatrix}
\]

---

**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, of the *Math Guide*.

---

**Tip**

If you want all brackets to be scalable, go to Format > Spacing on the Menu bar to open the Spacing dialog. Click on Category, select Brackets in 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. For example, `lbrace a; b` will result in `¿` because the right bracket `rbrace` is missing.

This inverted question mark disappears when all the brackets are paired. The previous example could be fixed to `lbrace a; b rbrace`, resulting in `{a;b}`. However, there are cases where an unpaired bracket is necessary and for that you have the following options.

**Non scalable brackets**

A backslash `\` is placed before a non scalable bracket to indicate that the subsequent character should not be regarded as a bracket, but rather as a literal character.

For example, the unpaired brackets in the formula `\[ a; b \]` would result in an inverted question mark because Math expects that `[ will be closed by ]`. To fix the error, you can use the backslash and insert `\[ a; b \]` into the Formula Editor to obtain `\[ a; b \]` as the result.

**Scalable brackets**

To create unpaired scalable brackets or braces in a formula, the markup commands `left`, `right`, and `none` can be used.

**Example**

The following formula uses the stack command to create a two-line formula and adds a bracket only to the right side of the stack.

```latex
| x | = \left \{ \begin{array}{ll} x \text{ "for" } x \\ >= 0 & \text{ "for" } x < 0 \end{array} \right \} \text{ right none}
\Rightarrow |x| = \begin{cases} x \text{ for } x \geq 0 \\
- x \text{ for } x < 0
\end{cases}
```

This effect can be achieved by using the `left \{` command combined with the `right none` command. The first command indicates that the left bracket is a `lbrac` whereas the second command tells Math that the right bracket will be `none`, meaning that no bracket will be added to the right side of the 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 Appendix A, Commands Reference, in 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 F3 key to move to the next error or the key combination Shift+F3 to move to the previous error.

Formulas over multiple lines

Suppose you want to create a formula that requires more than one line, for example \( x = 3 \), \( y = 1 \).

Your first reaction would be to press the Enter key. However, if you do that, the markup language in the Formula Editor goes to a new line, but the resulting formula does not have two lines. To add a new line to the formula you need to use the markup command newline.

Example

The examples below illustrate how the markup command newline can be used to add a new line to a formula. The first one simply adds an Enter to break the line in the markup language, which does not result in adding a new line. The second example uses the newline command, yielding a two-line formula.

<table>
<thead>
<tr>
<th>Markup Language</th>
<th>Resulting Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>( x = 3 ) \n ( y = 1 )</td>
<td>( x = 3 ) ( y = 1 )</td>
</tr>
<tr>
<td>( x = 3 ) newline ( y = 1 )</td>
<td>( x = 3 ) \n ( y = 1 )</td>
</tr>
</tbody>
</table>

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 formula 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, a multiple line formula is center aligned. For more information on alignment using the equals sign, see “Customization” on page 329.

Spacing within formulas

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 your 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 “Customization” on page 329.

**Adding limits to sum/integral commands**

The `sum` and `int` commands, used for summations and integrals respectively, can take the parameters from and to if you want to set the lower and upper limits. 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 Appendix A, Commands Reference, in the *Math Guide*.

**Examples**

Next you’ll find some examples of how to add upper and lower bounds to summations and integrals. Note that you can use brackets to explicitly define which parts of the formula correspond to the desired bounds.

<table>
<thead>
<tr>
<th>Markup Language</th>
<th>Resulting Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>sum from k = 1 to n a_k</code></td>
<td>[ \sum_{k=1}^{n} a_k ]</td>
</tr>
<tr>
<td><code>sum to infinity 2^{-n}</code></td>
<td>[ \sum_{n}^{\infty} 2^{-n} ]</td>
</tr>
<tr>
<td><code>sum from{ i=1 } to{ n } sum from{ j=1; i &lt;&gt; j } to{ m } x_{ij}</code></td>
<td>[ \sum_{i=1}^{n} \sum_{j=1; i \neq j}^{m} x_{ij} ]</td>
</tr>
<tr>
<td><code>int from 0 to x f(t) dt</code></td>
<td>[ \int_{0}^{x} f(t) dt ]</td>
</tr>
<tr>
<td><code>int_0^x f(t) dt</code></td>
<td>[ \int_{0}^{x} f(t) dt ]</td>
</tr>
<tr>
<td><code>int from Re f</code></td>
<td>[ \int_{\Re} f ]</td>
</tr>
</tbody>
</table>

**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 in each side of the elements to surround them and make the derivative, as shown by the following examples.

**Examples**

Below are a few examples of how you can use Math to write derivatives.

<table>
<thead>
<tr>
<th>Markup Language</th>
<th>Resulting Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>{df} over {dx}</code></td>
<td>[ \frac{df}{dx} ]</td>
</tr>
<tr>
<td><code>{partial f} over {partial y}</code></td>
<td>[ \frac{\partial f}{\partial y} ]</td>
</tr>
<tr>
<td><code>{partial^2 f} over {partial t^2}</code></td>
<td>[ \frac{\partial^2 f}{\partial t^2} ]</td>
</tr>
</tbody>
</table>
Note
To write function names with primes, as is normal in school notation, you must first add the symbols to the catalog. See “Customization” on page 329 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 your formula. To overcome this limitation in markup language, use one of the following methods:

- Use double quotes to mark that character as text, for example 2"%"= 0.02 will appear in your 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 “Customization” on page 329 for more information.

**Text in formulas**

To include text in a formula, you have to enclose any text in double-quotes, for example \text{x \ for \ x \geq \ 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 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 283.

![Figure 283: Example of double quotes in formula text.](image-url)

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 314.

By default, text alignment is left-justified in formulas. For more information on how to change text alignment, see “Adjusting formula alignment” on page 319.
Formatting text in formulas

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.

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.

This example shows how to use the markup commands color and bold to format the word “isosceles”. Note that the commands are applied to the immediately subsequent text within double quotes. Hence, the formatting commands do not apply to the remainder of the text in the example because it is in a separate quote block.

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 (=). In addition, you can use the markup commands alignr, alignl and alignc to set the alignment of each value inside the matrix to the right, left or center, respectively.

Example
Below is an example that uses a matrix to align formulas on the equals sign. Notice how the alignment commands align the contents of each position in the matrix.

```
matrix{ alignr x+y # {}={} # alignl 2
## alignr x # {}={} # alignl 2-y }
```

```
x+y = 2
x = 2−y
```

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 317 for more information.

Changing formula appearance

This section describes how to change the font or font size in a selected formula and how to change the default font or font size.

Note

If you have already inserted formulas into your document and you change the default font or font size, only formulas inserted after the change in default font or font size will use the new default settings. You have to individually change the font or font size of formulas already inserted if you want these formulas to use the same font or font size as the default settings.
Formula font size

Current formula font size
To change the font size used for a formula already inserted in Math or another LibreOffice component:

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 284).
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: \( \pi \approx 3.14159 \)

After font size change to 18pt: \( \pi \approx 3.14159 \)

Default formula font size
To change the default font size used for all formulas in Math or another LibreOffice component:

1) Before inserting any formulas in your document, go to Format > Font size on the Menu bar to open the Font Sizes dialog (Figure 284).
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.
Font size options
The Font Sizes dialog (Figure 284) specifies the font sizes for a formula. Select a base size and all elements of the formula will be scaled in relation to this base.

- **Base size** – all elements of a formula are proportionally scaled to the base size. To change the base size, select or type in the desired point (pt) size. You can also use other units of measure or other metrics, which are then automatically converted to points. For example, if you enter 11in or 1", Math converts the value to 72 pt.
- **Relative Sizes** – in this section, you can determine the relative sizes for each type of element with reference to the base size.
- **Default** – click this button to save any changes as a default for all new formulas. A confirmation message appears.

Formula fonts

Current formula fonts
To change the fonts used for the current formula in Math or another LibreOffice component:

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 285).

![Figure 285: Fonts dialog](image)

3) Select a new font for each of the various options in 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 in 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.

Default formula fonts
To change the default fonts used for all formulas in Math or another LibreOffice component:

1) Before inserting any formulas in your document, go to Format > Fonts on the Menu bar to open the Fonts dialog (Figure 285).
2) Select a new font for each of the various options in 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 in 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 font for formulas.

5) Click OK to save your changes and close the Fonts dialog.

**Formula font options**

Defines the fonts that can be applied to formula elements.

- **Formula Fonts** – defines the fonts used for the variables, functions, numbers and inserted text that form the elements of a formula.

- **Custom Fonts** – in this section of the Fonts dialog (Figure 285), fonts are defined which format other text components in a formula. The three basic fonts Serif, Sans, and Fixed are available. Other fonts can be added to each standard installed basic font using the Modify button. Every font installed on a computer system is available for use.

- **Modify** – click one of the options in the drop-down menu to access the Fonts dialog, where the font and attributes can be defined for the respective formula and for custom fonts.

- **Default** – click this button to save any changes as a default for all new formulas. A confirmation message appears.

**Note**

When a new font is selected for a formula, the old font remains in the list alongside the new one and can be selected again.

**Note**

Variables should be written in *italics*, so make sure that the *Italic* option is selected. For the font you want to use. For all other elements, use the basic form of a font. The style can be easily altered in the formula itself by using the commands *italic* or *bold* to set these characteristics and *nitalic* or *nbold* to unset them.

**Adjusting formula spacing**

Use the Spacing dialog (Figure 286) to determine the spacing between formula elements. The spacing is specified as a percentage in relation to the defined base size for font sizes.

![Spacing dialog](image)

*Figure 286: Spacing dialog*
Current formula spacing
To change the spacing used for the current formula in Math or another LibreOffice component:

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 286).
3) Click Category and select one of the options in 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.

Default formula spacing
To change the default spacing used for all formulas in Math or another LibreOffice component:

1) Before inserting any formulas in your document, go to Format > Spacing on the Menu bar to open the Spacing dialog (Figure 286).
2) Click Category and select one of the options in the drop-down list. The options in the Spacing dialog change according to the category selected.
3) Enter new values for the spacing category.
4) Click Default and confirm your changes to the formula spacing. Any formulas created from this point on will use the new spacing for formulas.
5) 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.

Spacing options
Use Category in the Spacing dialog (Figure 286) to determine the formula element for which you would like to specify the spacing. The appearance of the dialog depends on the selected category. A preview window shows you which spacing is modified through the respective boxes.

• Category – pressing this button allows you to select the category for which you would like to change the spacing.
• Spacing – defines the spacing between variables and operators, between lines, and between root signs and radicals.
• Indexes – defines the spacing for superscript and subscript indexes.
• Fractions – defines the spacing between the fraction bar and the numerator or denominator.
• Fraction Bars – defines the excess length and line weight of the fraction bar.
• Limits – defines the spacing between the sum symbol and the limit conditions.
• Brackets – defines the spacing between brackets and the content.
  – Excess size (left/right) – determines the vertical distance between the upper edge of the contents and the upper end of the brackets.
  – Spacing – determines the horizontal distance between the contents and the upper end of the brackets.
– **Scale all brackets** – scales all types of brackets. If you then enter \((a \over b)\) in the Formula Editor, the brackets will surround the whole height of the argument. You normally achieve this effect by entering left (a over b right).

– **Excess size** – adjusts the percentage excess size. At 0% the brackets are set so that they surround the argument at the same height. The higher the entered value is, the larger the vertical gap between the contents of the brackets and the external border of the brackets. The field can only be used in combination with **Scale all brackets**.

- **Matrices** – defines the relative spacing for the elements in a matrix.
  - **Line spacing** – determines the spacing between matrix elements in a row.
  - **Column spacing** – determines the spacing between matrix elements in a column.

- **Symbols** – defines the spacing of symbols in relation to variables
  - **Primary height** – defines the height of the symbols in relation to the baseline.
  - **Minimum spacing** – determines the minimum distance between a symbol and variable.

- **Operators** – defines the spacing between operators and variables or numbers.
  - **Excess size** – determines the height from the variable to the operator upper edge.
  - **Spacing** – determines the horizontal distance between operators and variables.

- **Borders** – adds a border to a formula. This option is particularly useful if you want to integrate the formula into a text file in Writer. When making settings, make sure that you do not use 0 as a size as this creates viewing problems for text that surrounds the insertion point.

- **Preview Field** – displays a preview of the current selection.

- **Default** – saves any changes as default settings for all new formulas. A confirmation dialog will appear before saving these changes.

**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 component:

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 287).

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.
Regardless of the alignment option selected in the Alignment dialog, it is possible to align sections of a formula using the commands alignl, alignc and alignr. For example, they can be useful to align formulas in matrices. These commands also work for text elements.

**Default formula alignment**
To change the default alignment used for all formulas in Math or another LibreOffice component:

1. Before inserting any formulas in your document, go to Format > Alignment on the Menu bar to open the Alignment dialog (Figure 287).
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 a 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 markup language. This command only works on the formula element immediately after the color name. For example, entering the markup language color red 5 times 4 gives the result $5 \times 4$. Note that only the number 5 was colored red.

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 {5 times 4} gives the result $5 \times 4$.

Math now has full support for named HTML colors. Some of them have been added to the Attributes section of the Elements dock (Figure 280 on page 304). For information on the colors available in Math, see Appendix A, Commands Reference, in the Math Guide.
Applying colors using RGB values

Alternatively, it is possible to use custom colors defined using RGB (Red, Green and Blue) values ranging from 0 to 255. This is done by using the `color rgb R G B` markup command, where R, G and B correspond to the Red, Green and Blue values of the desired color.

Example

Below is an example where the term “decision variable” uses the color *sienna*, which is defined by the RGB values 160, 82 and 45.

"Let " x_{ij} " be a " color rgb 160 82 45 "decision variable " "in the problem under consideration"

Math will create the following output:

Let $x_{ij}$ be a decision variable in the problem under consideration

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. In LibreOffice documents, you can use object properties to change the background color for a formula. See “Background and borders” on page 326.

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 either 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 Math and create your formula using the Formula Editor. See “Formulas as separate documents or files” on page 301 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 a memorable name for the formula in the **File name** box.

6) Select in the **File type** drop-down list either **ODF Formula (.odf)** or **MathML 2.0 (.mml)** as the file type for the 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 302 for more information.
4) Right-click on the formula object and select **Save Copy as** in the context menu to open a Save As dialog.

5) Navigate to the folder you have created for your formula library.

6) Type a memorable name for the formula in the **File name** box.

7) Select in the File type drop-down list either **ODF Formula (.odf)** or **MathML 2.0 (.mml)** as the file type for the 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 the formula 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 a 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.

7) Click **OK** to insert the formula as an OLE object in the document and close the 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 allowing you to 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. The easiest way to add numbered formulas in sequence is to use the AutoText entry **fn** (for **‘formula numbered’**) using the following steps:

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.

   \[ E = mc^2 \] (1)

3) Delete the sample formula and insert your formula as an object in the left column.

4) 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.

**Cross referencing**

1) Click in your 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 288).
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.

![Fields dialog – Cross-references tab](image)

**Tip**

To insert the cross reference number without parentheses, select Numbering instead of Reference in the Insert reference to section.

**Note**

If you want to use square parentheses instead of round ones, or if you want the cross reference number to be separated from the formula by tabs instead of using a table, then refer to the chapter on automatic text in the Writer Guide.

**Anchoring formulas**

A formula is treated as an object within Writer and its default anchoring is To 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 in the context menu.
2) Select a new anchoring option in the context sub-menu. The anchoring positions available are To Page, To Paragraph, To Character, or As Character.
3) Alternatively, right-click on the selected formula object and select Properties in the context menu, or go to Format > Frame and Object > Properties on the Menu bar to open the Object dialog (Figure 289).
4) Make sure the **Type** tab is selected and select a new anchoring position from the **Anchor** section in the upper right of the tab.

5) Click **OK** to save your changes and close the Object dialog.

![Object dialog – Type tab with Anchor options](image)

**Note**

The anchoring options are not available in the Object dialog when you are making changes to the 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 (assuming that the **As character** anchoring option is selected):

1) Right-click on the selected formula object and select **Properties** in the context menu, or go to **Format > Frame and Object > Properties** to open the Object dialog (Figure 289).

2) Make sure the **Type** tab is selected and select a new alignment position in 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 in 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.

**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 each side of the formula object. 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 your formula in your Writer document.
2) Right-click on your selected formula object and select Properties in the context menu, or go to Format > Frame and Object > Properties 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 290).
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.

![Figure 290: Object dialog – Wrap tab](image)

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 “Formula font size” on page 315 for more information.

Backgrounds

1) In your document, select the formula where you want to change the background.
2) Right-click on the formula and select Properties in the context menu, or go to Format > Frame and Object > Properties on the Menu bar to open the Object dialog.
3) Click on the Area tab and use the buttons to select the type of fill you want to use for your formula (Figure 291).
4) Select the options you want to use for your formula background. The options change depending on the type of fill selected.
5) Click OK to save your changes and close the Object dialog.

Borders

1) In your document, select the formula where you want to change the borders.
2) Right-click on the formula and select Properties in the context menu, or go to Format > Frame and Object > Properties on the Menu bar to open the Object dialog.
3) Click on the Borders tab and select the options you want to use for your formula borders (Figure 292).

4) Click OK to save your changes and close the Object dialog.

![Image of the Object dialog – Borders tab]

**Figure 292: Object dialog – Borders tab**

### Quick insertion of formulas

If you know the markup language for your formula, you can quickly insert it into your Writer document without opening the Formula Editor as follows:

1) Enter the formula markup language into your document at the position where you want the formula to be placed.

2) Select the markup language.

3) Go to Insert > Object on the Menu bar and select Formula to create a formula from the selected markup language.

4) Alternatively you can use the key combination Ctrl + Insert to open the “Insert OLE Object” dialog and then select Formula.

### Formulas in Calc, Draw, and Impress

In Calc, Draw, and Impress, formulas are inserted as OLE objects without any background (area fill) or borders. 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 your 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 in the context menu.
3) Alternatively, go to Format > Anchor on the Menu bar and select To Page or To Cell.

Tip
If you insert a formula into a Calc spreadsheet and it appears out of scale, you can fix it by right-clicking the formula object and then selecting the Original Size option in the context menu.

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 your 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.

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 tabs 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 tabs of the Position and Size dialog.
- In Draw and Impress, you can 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 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 directly into a chart. However, you can create both the Chart and Math objects separately and later copy and paste the Math formula into the Chart object:

1) Create the chart using LibreOffice Calc. For a complete reference on how to create charts, see Chapter 3 in the Calc Guide.
2) Click at any cell in your spreadsheet so that the Chart is no longer selected.
3) Insert a Math Formula object by clicking **Insert > Object > Formula**.
4) Type the desired formula into the Formula Editor.
5) After editing the formula, select the Math Formula object and press **Ctrl+C** to copy the Formula object to the clipboard.
6) Double-click the chart object to start editing the chart and press **Ctrl+V** to paste the Formula object into the chart.
7) Now you can position the object anywhere you want inside the chart.

If you want to change the formula at a later date, then you must repeat the whole process of creating, copying, and pasting the Formula object into the chart.

**Customization**

This section explains how you can customize Math to suit the way you create formulas for use in LibreOffice documents. Also, refer to Chapter 14, Customizing LibreOffice, for more general information on how to customize LibreOffice.

**Floating dialogs**

The Formula Editor and Elements dock can cover a large part of your document. To help create more space and/or allow you to move either the Formula Editor or Elements dock out of the way, you can turn both of them into floating dialogs.

1) Position the cursor on the frame.
2) Hold down the **Ctrl** key and double-click. This turns the Formula Editor into the Commands dialog (Figure 293) and the Elements dock into the Elements dialog (Figure 294).

![Figure 293: Commands dialog](image)

![Figure 294: Elements dialog](image)

To return the Commands dialog and Elements dialog back to their default positions:

1) Position the cursor on the frame of the dialog, NOT the title bar at the top of the dialog.
2) Hold down the **Ctrl** key and double-click.
Adding keyboard shortcuts

You can add keyboard shortcuts to LibreOffice to make creating documents much easier and to match your workflow. See Chapter 14, Customizing LibreOffice, for instructions.

Catalog customization

If you regularly use a symbol that is not available in Math, you can add it to the Symbols dialog (Figure 295) by opening the Edit Symbols dialog (Figure 296).

Using the Edit Symbols dialog you can add symbols to a symbol set, edit symbol sets, or modify symbol notations. You can also define new symbol sets, assign names to symbols, or modify existing symbol sets.

Adding symbols

1) Go to Tools > Symbols on the Menu bar or click on the Symbols icon on the Tools toolbar to open the Symbols dialog.
2) Click the Edit button to open the Edit Symbols dialog.
3) Select a font in the Font drop-down list.
4) Select a symbol character that you want to add in the preview box. You may have to scroll down in the preview box to locate the symbol you want to use. The small right preview box displays the new symbol.
5) In the Symbol box, type a memorable name for the symbol you are adding.
6) In the Symbol set box, select a symbol set in the drop-down list to add your new symbol to, or type a new name to create a new symbol set for your new symbol.
7) If required, select a font style in the Style drop-down list – Standard, Italic, Bold, or Bold, Italic.
8) Click Add, then click OK to close the Edit Symbols dialog. The new symbol and, if created, new symbol set are now available for use.

Figure 295: Symbols dialog
When a new symbol is added to the catalog, you can type a percentage sign (%) followed by the new name into the markup language in the Formula Editor and your new symbol will appear in your formula. Remember that symbol names are case sensitive, for example, %prime is a different symbol to %Prime.

There are numerous free fonts available that contain several symbols if you cannot find a symbol to use in the fonts already installed on your computer. For example, the STIX font was developed specially for writing mathematical and technical texts. Also, the DejaVu and Lucida fonts have a wide range of symbols that you can use.

When LibreOffice is installed on a computer, only those user-defined symbols that actually occur in the document are stored with it. Sometimes it is useful to embed all the user-defined symbols, so that when the document is transferred to another computer it can be edited by another person. Go to Tools > Options > LibreOffice Math > Settings, uncheck the option Embed only used symbols (smaller file size). This setting is only available when you are working with LibreOffice Math.
Editing symbols

Modifying symbol names
You can change the name of a symbol as follows:

1) Select the symbol name you want to change in the Old symbol drop-down list. The symbol appears in the left preview pane at the bottom of the Edit Symbols dialog (Figure 296).
2) Type a new name for the symbol in the Symbol text box, or select a new name in the Symbol drop-down list. The new symbol name appears above the right preview pane at the bottom of the Edit Symbols dialog.
3) Click Modify and the symbol name is changed.
4) Click OK to close the Edit Symbols dialog.

Moving symbols
You can move a symbol from one symbol set to another as follows:

1) In the Old symbol set drop-down list, select the symbol set where the symbol you want to move is located.
2) Select the symbol name you want move in the Old symbol drop-down list. The symbol appears in the left preview pane at the bottom of the Edit Symbols dialog (Figure 296).
3) In the Symbol set drop-down list, select the symbol set that you want to move the symbol to. The new symbol set name appears below the right preview pane at the bottom of the Edit Symbols dialog.
4) Click Modify and the symbol is moved to the new symbol set
5) Click OK to close the Edit Symbols dialog.

Deleting symbols
You can delete a symbol from a symbol set as follows:

1) In the Old symbol set drop-down list, select the symbol set from which you want to delete the symbol.
2) Select the symbol name you want delete in the Old symbol drop-down list. The symbol appears in the left preview pane at the bottom of the Edit Symbols dialog (Figure 296).
3) Click Delete and the symbol is deleted from the symbol set without any confirmation.
4) Click OK to close the Edit Symbols dialog.

Note
The only way you can delete a symbol set is by deleting all of the symbols in that set. When you delete the last symbol from a set, the set is also deleted.

Options for editing symbols
For details of the fields in the Edit Symbols dialog (Figure 296), please refer to the Math Guide.

Formula spacing
The grave accent (‘) inserts an additional small space and the tilde (~) inserts an additional large space into formulas. However, in the basic installation of LibreOffice, these symbols are ignored when they occur at the end of a formula. If you are working with running text in a formula, it may be necessary to include spacing at the end of formulas as well. This customization is only required when you are working with a Math document and is not required when you are inserting a formula into another LibreOffice component.
To add spacing at the end of formula in Math, go to Tools > Options > LibreOffice Math > Settings on the Menu bar and uncheck Ignore ~ and ` at the end of the line in the Miscellaneous Options section.

**Extensions**

If you create formulas frequently in your documents, you can customize LibreOffice by adding extensions that are designed to help you create formulas. Extensions are easily installed using the Extension Manager. For more information on how to install extensions, see Chapter 14, Customizing LibreOffice.

A commonly used extension is Formatting of All Math Formulas. It allows you to format all Math formulas in your Writer, Calc, Draw or Impress document. With it you can change the font names and font sizes of all formulas in your document. For more information on this extension, go to https://extensions.libreoffice.org/extensions/show/formatting-of-all-math-formulas.

**Exporting and Importing**

**Math ML format**

In addition to exporting documents as PDFs, LibreOffice offers the possibility of saving formulas in the MathML format. This allows you or another person to insert formulas into documents that were created in other software, for example, Microsoft Office or an internet browser.

**Note**

Some internet browsers do not fully support the MathML format and your formula may not display correctly.

If you are working on a Math document, go to File > Save as on the Menu bar or use the keyboard combination Ctrl+Shift+S to open the Save as dialog. Select MathML in the list of available file formats in File type: to save your formula as MathML.

If you are working in another LibreOffice module, right-click on the formula object and select Save copy as in the context menu to open the Save as dialog. Select MathML in the list of available file formats in “File type” to save your formula object as MathML.

In Math you can also import MathML formulas. Use Tools > Import MathML from clipboard on the Menu bar.

**Microsoft file formats**

To control how formulas in Microsoft format are imported and exported using LibreOffice, go to Tools > Options > Load/Save > Microsoft Office on the Menu bar and select or deselect the options for MathType to LibreOffice Math or reverse.

- [L]: Load and convert the object
- [S]: Convert and save the object

**[L]: Load and convert the object**

Select this option if Microsoft OLE objects are to be converted into the specified LibreOffice OLE object when a Microsoft document is opened in LibreOffice. For formulas, any embedded MathType objects must not exceed the MathType 3.1 specifications to be successfully loaded and converted. Information on MathType format can be found on the website http://www.dessci.com/en.
If a document containing OMML formulas has been saved in .docx format and then converted to the older .doc format, then any OMML objects are converted into graphics, which will be displayed in LibreOffice as graphics.

[S]: Convert and save the object
Select this option if LibreOffice OLE objects are to be converted and saved in Microsoft file format. LibreOffice converts any formulas into a format that can be read and modified by Microsoft Equation Editor and MathType.

When this option is not selected, the formula is treated as an OLE object on conversion into a .doc format and remains linked to LibreOffice. A double-click on the object in Microsoft Office will attempt to launch LibreOffice.
Chapter 10
Printing, Exporting, Emailing, and Signing Documents
Quick printing

If the Print Directly icon is visible on the Standard toolbar, you can click it to print the entire document using the current default print settings. If the icon is not visible, you can make it visible by right-clicking on the toolbar, pointing to Visible Buttons, and selecting Print Directly.

Note

The Print Directly and other printing options are not available when viewing a Base table or query.

You can specify the default printer on the Printer Setup dialog; go to File > Printer Settings on the Menu bar. When further printing options are available, click the Options button on the Printer Setup dialog to access them. The same options are available through Tools > Options > [LibreOffice Component] > Print, and more general print options through Tools > Options > LibreOffice > Print. See Chapter 2, Setting Up LibreOffice, for more information.

Controlling printing

For more control over printing, use the Print dialog (File > Print, Ctrl+P (⇧+P for macOS), or the Print icon on the Standard toolbar).

Note

The appearance of the Print dialog is different on macOS and may include extra printer controls not described in this chapter.

The Print dialog (Figure 297) has two tabs, from which you can choose a range of options as described in the following sections. The first tab is General; it is similar in all LibreOffice components although some of the options available in Writer are unavailable in other components. The second tab is component-specific.

The different components of LibreOffice have different print settings available, as summarized in Table 5.

Table 5: Print options in LibreOffice components

<table>
<thead>
<tr>
<th>Feature</th>
<th>Writer</th>
<th>Calc</th>
<th>Impress</th>
<th>Draw</th>
<th>Math</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select pages/sheets/slides to print</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Print multiple pages/sheets/slides on one page</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Print a brochure</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Print envelopes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Print labels or business cards</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Preview pages/sheets before printing</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Base forms and reports are printed using the Writer version of the Print dialog and hence provide the facilities in the Writer column of Table 5.
Selecting general printing options

On the General tab of the Print dialog, you can choose:

- The printer, from the list of available printers
- Which pages to print, the number of copies to print, and whether to collate multiple copies (Range and Copies section; see “Selecting pages/sheets/slides to print” on page 338)
- Paper size and print orientation (Page Layout section)
- How many pages to print on one sheet of paper and whether to draw a border around each page (Page Layout section)
- Whether to print a brochure (see “Printing a brochure” on page 343)
- Whether to print in reverse page order (useful on some printers to make the pages come out in page order)
Selecting printer and print job options

In the Printer section of the General tab, click 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.

Click the More Options button at the bottom of the Print dialog to choose whether to create separate print jobs for collated output, instead of one print job containing all the collated pages (not relevant if only one copy of a document is printed).

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, in the Page Layout section of the General tab, click more and select from the Pages per sheet drop-down list the number of pages to print per sheet of paper. The preview panel on the left of the Print dialog shows how the printed document will look. This facility is not available in Math.

When printing more than two pages per sheet, you can choose the order in which they are printed across and down the paper (Figure 298).

Tip

In Writer, to print two pages per sheet in “facing pages” (book layout) style, print from Print Preview instead. See page 345.

Selecting pages/sheets/slides to print

In addition to printing a full document, in the Range and Copies section of the General tab, you can choose to print individual pages/sheets/slides, ranges of pages/sheets/slides, or a selection of a document. The details vary slightly between Writer, Calc, Draw, Impress, and Math, as described below.

**Writer and Math**

Printing an individual page:

1) In the Print dialog, in the Range and Copies section, select the Pages option. The text box shows the current page number.

2) Enter the page number of the page you want to print. The preview box on the left changes to show the selected page.
Printing a range of pages:

1) In the Print dialog, in the Range and Copies section, select the **Pages** option.
2) Enter the page numbers of the pages to print (for example, 1–4 or 1,3,7,11).

Printing a selection of text or graphics (Writer only):

1) In the document, select the material to print, then open the Print dialog.
2) In the Range and Copies section of the Print dialog, the **Selection** option is now active and selected and the preview box shows the selected material (Figure 299).

![Figure 299: Printing a selection of text](image)

**Calc**

You can choose individual sheets, ranges of sheets, or selections of sheets for printing.

![Figure 300: Choosing what to print in Calc](image)

Printing an individual sheet:

1) In the spreadsheet, click on the sheet tab to select the sheet you want to print.
2) Open the Print dialog and choose the General tab.
3) In the Range and Copies section, click **more** and choose **Print Selected Sheets** in the From which drop-down.

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 and click on the additional sheet tabs.
   c) Release the Control key when all required sheets are selected.
2) Open the Print dialog and choose the General tab.
3) In the Range and Copies section, click more and choose Print Selected Sheets in the From which drop-down.

⚠️ 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.

Printing a selection of cells:

1) In the document, select the cells to print.
2) Open the Print dialog and choose the General tab.
3) In the Ranges and Copies section, choose Print Selected Cells in the From which drop-down.

Impress and Draw

You can choose individual slides, ranges of slides, or selections of slides for printing.

To print an individual slide or a range of slides, do one of the following:

- In the Print dialog, select the Slides option in the Range and Copies section (Figure 301) and then enter the numbers of the slides to print (for example, 1-4 or 1,3,7,11).
- Select the slides first and then open the Print dialog, which will show the slide numbers in the box. See Chapter 6, Getting Started with Impress, for information on selecting slides.

![Figure 301: Choosing what to print in Impress and Draw](image)

To print a selection from a slide, or a selection from multiple slides:

1) In the document, select the section of the slide to print.
2) Open the Print dialog.
3) Choose the Selection option in the Range and Copies section.

You can also choose to print only even-numbered slides or only odd-numbered slides.

Choices on the component tabs

Choices on the LibreOffice [Component] tab vary with the component.

Writer

On the LibreOffice Writer tab (Figure 302) you can choose to print a subset of contents (for example, images or hidden text), print text in black (even if a color is defined for the text), whether to print automatically inserted blank pages, and whether and where to print any comments that are in the document (Figure 303).
Some selections may not be available all the time. For example, if the document contains no comments, the Comments drop-down list is disabled.

**Calc**

The only choice on the LibreOffice Calc tab is whether to suppress the printing of blank sheets.

**Impress**

On the LibreOffice Impress tab (Figure 304), you can choose to print slides, handouts, notes, or an outline. See Chapter 6, Getting Started with Impress, for more information on these features.

- **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 slides, handouts, notes, or outlines:

1) In the Document section, select the required option under Type.
2) For Handouts, you can then choose how many slides to print per page, and the order in which they are printed (Figure 305).

---

**Figure 304: LibreOffice Impress tab of Print dialog**

**Figure 305: Handouts**
**Draw**

On the LibreOffice Draw tab (Figure 306), you can choose print options as shown.

![Figure 306: LibreOffice Draw tab of Print dialog](image)

**Math**

On the LibreOffice Math tab (Figure 307), you can choose print options as shown.

![Figure 307: LibreOffice Math tab of Print dialog](image)

**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:

1) In the Page Layout section of the General tab, click more and select the Brochure option. The preview on the left changes to show the sequence in which the pages will be printed (Figure 308).

![Figure 308: Settings for printing a brochure on a simplex printer](image)

2) Depending on your language settings (Tools > Options > Language Settings > Languages), the Writer variant of the Print dialog may include a drop-down menu adjacent to the Brochure button (not shown in Figure 308). This provides Left-to-right script and Right-to-left script options. Select the required setting in this menu.

3) If your printer can print double-sided (duplex) pages automatically, choose All pages in the Range and Copies section, then click OK to print.

4) If your printer can print only single-sided pages automatically, follow these steps:

   a) Select Even pages in the Range and Copies section, then click OK to print.

   b) Take the printed pages out of the printer and put them back in the correct orientation to print on the blank side. You may need to experiment to find the correct arrangement for your printer.

   c) On the Print dialog, in the Range and Copies section, select Odd pages. Click OK.
Printing envelopes, labels, business cards

Printing envelopes, labels, or business cards using Writer involves two steps: setup and printing. For details, see Chapter 14, Using Mail Merge, in the Writer Guide.

Previewing pages/sheets before printing

You can use the previewing options in Writer and Calc to view the document as it will be printed. Several 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 Book view button on the status bar.
- **Print Preview** (read-only view).

To use Print Preview:

1) Choose **File > Print Preview** on the Menu bar, or click the **Toggle Print Preview** button on the Standard toolbar, or press Ctrl+Shift+O (Shift+⌘+O for macOS).

   Writer now displays the Print Preview toolbar instead of the Formatting toolbar.

   ![Print Preview toolbar (Writer)](image)

2) Select the required preview icon: **Single Page**, **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 **OK** or **Print** (macOS).

Calc

To preview the sheets in Calc before printing:

1) Choose **File > Print Preview** on the Menu bar, or click the **Toggle Print Preview** button on the Standard toolbar, or press Ctrl+Shift+O (Shift+⌘+O for macOS).

   The Calc window now displays the Print Preview toolbar instead of the Formatting toolbar.

   ![Print Preview toolbar (Calc)](image)

2) To print the document from this view, click the **Print** icon to open the Print dialog.
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.

**Note**

Some color printers may print in color regardless of the settings you choose.

For one document, change the printer settings to print in black and white or grayscale:

1) On the Print dialog, 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.

2) The choices for color might include black and white or grayscale. Choose **grayscale**.

3) Click **OK** to confirm your choice and return to the Print dialog.

4) Click **Print** to print the document.

To print all color text and images as grayscale, change the LibreOffice settings:

1) Choose **Tools > Options > LibreOffice > Print**.

2) Select the **Convert colors to grayscale** option. Click **OK** to save the change.

To print all color text as black, and all images as grayscale, change the LibreOffice Writer settings:

1) Choose **Tools > Options > LibreOffice Writer > Print**.

2) Under **Contents**, select the **Print text in black** option. Click **OK** to save the change.

Exporting to PDF

LibreOffice can export documents to PDF (Portable Document Format). This standard file format is ideal for sending the file to someone else to view using Adobe Reader or other PDF viewers.

**Warning**

A document in PDF format is not protected against contents tampering or editing by default. The PDF document contents can be edited by specialized software tools, including LibreOffice Draw.

The process and dialogs are the same for Writer, Calc, Impress, and Draw, with a few minor differences mentioned in this section.

**Tip**

Unlike Save As, the Export command writes a copy of the current document in a new file with the chosen format, but keeps the current document and format open in your session.

Quick export to PDF

Click the **Export Directly as PDF** icon on the Standard toolbar to export the entire document using the PDF settings you most recently selected on the PDF Options dialog (see below). In Writer, Impress, and Draw, you can also use **File > Export As > Export Directly as PDF**. 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 > Export as PDF (Writer, Impress, and Draw) or File > Export as PDF (Calc and Math) on the Menu bar. The PDF Options dialog opens. This dialog has six tabs (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 (Windows and Linux) or Export (macOS) to export the file.

![Note]

You can also export to PDF from File > Export (not Math). On the Export dialog, select the PDF file format, the file name and location, and click Save or Export (macOS). The PDF Options dialog then opens. Select the appropriate settings and then click Export. The only difference between the two export methods is the sequence in which steps occur.

General tab of PDF Options dialog

On the General tab, 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 311 shows the Writer variant of the General tab – the corresponding tabs for other LibreOffice components have minor differences from this figure.

![Figure 311: General tab of PDF Options dialog (Writer)]

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.
• **View PDF after export**: Your default PDF viewer will open and display the newly exported PDF.

**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. Lower resolutions (100 DPI or less) may be sufficient for viewing on a computer screen, but many modern devices have higher resolutions; and for printing it is generally preferable to use at least 300 or 600 DPI, depending on the capability of the printer. Higher DPI settings 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 type in the Sign with watermark text box will appear on each page of the PDF.

**General section**

• **Hybrid PDF (embed ODF file)**: Use this setting to export the document as a PDF 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, ISO 19005)**: 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. **PDF/A-1b** refers to the minimum compliance level with PDF/A-1. **PDF/A-2b** is recommended for most users, because it allows for layers and transparency with shapes and images. It also compresses better, usually producing smaller files. **PDF/A-3b** is identical to PDF/A-2b, but also accepts embedding of other file formats.

• **Universal Accessibility (PDF/UA)**: Creates a universal accessibility-complaint PDF file that follows the requirements of PDF/UA (ISO 14289) specifications. See the Help for more information.

• **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. You can enter data in the first occurrence of the named field in the PDF document and all fields with the same name will carry your entry. If disabled, field names will be exported using generated unique names.
Structure section

- **Export outlines**: Exports headings in Writer documents, and page or slide names in Impress and Draw documents, as an outline (table of contents list) displayed by most PDF viewers, including Adobe Reader. In LibreOffice 7.0 and earlier, these were called bookmarks.

- **Export placeholders**: The PDF will include any defined placeholder fields, which can be filled in by users. This option is only available in Writer.

- **Comments as PDF annotations**: If selected, comments are included in the PDF as annotations.

- **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 (righthand) 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.

- **Use reference XObjects**: Reference XObjects enable one PDF file to import content from another. More information can be found in section 8.10.4 of the PDF specification, ISO 32000-2:2017 (https://www.iso.org/standard/63534.html). If you are not familiar with referenceXObjects, leave this box unchecked.

Initial View tab of PDF Options dialog

On the Initial View tab (Figure 312), 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 the Continuous facing option: First page is left (normally, the first page is on the right when using the Continuous facing option).

![Figure 312: Initial View tab of PDF Options dialog](image)

User Interface tab of PDF Options dialog

On the User Interface tab (Figure 313), 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.
Window Options section
- **Resize window to initial page:** The PDF viewer window will resize to fit the first page of the PDF.
- **Center window on screen:** The PDF viewer window will be centered on the computer screen.
- **Open in full screen mode:** The PDF viewer will open full-screen instead of in a smaller window.
- **Display document title:** The PDF viewer will display the document's title in the title bar.

User Interface Options section
- **Hide menubar:** The PDF viewer will hide the menu bar.
- **Hide toolbar:** The PDF viewer will hide the toolbar.
- **Hide window controls:** The PDF viewer will hide other window controls.

Transitions
In Impress, displays slide transition effects as their respective PDF effects.

Collapse Outlines
Select how many heading levels are displayed in the outline, if **Export outlines** is selected on the General tab.

Links tab of PDF Options dialog
On the Links tab (Figure 314), you can choose how links are exported to PDF.
Export outlines as named destinations

Paragraphs defined in Writer’s outline levels, Impress or Draw slide names, and Calc sheet names are exported as “named destinations” to which Web pages and PDFs 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), the file extensions are converted 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 tab 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. After you set a password for permissions, the other choices on the Security page (Figure 315) 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.

Figure 315: Security tab of PDF Options dialog
Note
Permissions settings are effective only if the user’s PDF viewer respects the settings.

Digital Signatures tab of PDF Options dialog
The Digital Signatures tab (Figure 316) contains the options related to exporting a digitally signed PDF.

Figure 316: Digital Signatures tab of PDF Options dialog

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 (macOS and Linux only). 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 Sign.
  
  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.

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**Exporting to EPUB format (Writer only)**

EPUB format has become popular since mobile devices such as smartphones, tablets, and e-readers appeared on the market. The EPUB format is implemented as an archive file consisting of HTML files carrying the content, along with images and other supporting files.

Writer can export a file to EPUB. A text-only document generally exports well, but some contents (such as illustrations, tables, and cross-references) may not export correctly.

**Tip**

Other ways to export to ePub from Writer (.odt) files include Calibre, an open-source e-book manager that runs on Windows, macOS, and Linux. Calibre provides many e-book conversion facilities (including PDF to EPUB) and allows editing of the result. [https://calibre-ebook.com/](https://calibre-ebook.com/)

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**Quick export to EPUB**

Choose **File > Export As > Export Directly as EPUB** to export the entire document using the EPUB settings you most recently selected on the EPUB Export dialog (see below). You are asked to enter the file name and location for the EPUB file, but you do not get a chance to select other options.

**Controlling export to EPUB**

For more control over the content and quality of the resulting EPUB file, use **File > Export As > Export as EPUB**. The EPUB Export dialog opens (Figure 317).

The EPUB Export dialog has the following fields:

- **Version**
  Choose the EPUB version for the exported file. Values are EPUB 2.0 and EPUB 3.0. Most new e-readers can read EPUB 3.0.

- **Split method**
  Select the method to start a new section. Choose **Heading** to start the section on a heading, according to the document’s chapter numbering. Choose **Page break** to start the section on a page break.

- **Layout method**
  Choose **Reflowable** to have the ebook display change to fit the screen size and the user’s preference (so page size and header/footer content is not exported). Choose **Fixed** to have the ebook layout remain the same under all conditions.

- **Customize - Cover image**
  The path to the image file for the cover page. If no image is specified, the EPUB file will automatically use any image with a name like cover.gif, cover.jpg, cover.png, or cover.svg. A custom cover image is embedded in the EPUB file.
Customize - Media directory

The path to the optional directory for the cover image, metadata, and multimedia files. If you do not specify a directory, the exporter looks for custom media and custom metadata in the current document directory inside a folder with the same name as the document file name.

Metadata

The basic information for the file that provides tags to help searches. These fields provide another chance to edit metadata that is picked up by default from File > Properties in Writer.

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 (not available in Math) as well.

LibreOffice can export files to XHTML. In addition, Draw and Impress can export to 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 Save as type or File format (macOS) list and click the Save or Export (macOS) button.
Emailing documents

LibreOffice provides several ways to send documents quickly and easily as email attachments in one of three formats: OpenDocument (LibreOffice's default format), Microsoft Office formats, or PDF.

To send the current document in OpenDocument format:

1) Choose **File > Send > Email Document**. LibreOffice opens your default email program. The document is attached to a new email.

2) In your email program, enter the recipient, subject, and any text you want to add, then send the email.

**File > Send > Email as OpenDocument [Text, Spreadsheet]** has the same effect in Writer or Calc.

If you choose **Email as Microsoft [Word, Excel]** in Writer or Calc, LibreOffice first creates a file in one of those formats and then opens your email program with the file attached to a new email.

Similarly, if you choose **Email as PDF**, LibreOffice first creates a PDF using your default PDF settings (as when using the **Export Directly as PDF** function) and then opens your email program with the PDF file attached to a new email.

Emailing a document to several recipients

To email a document to several recipients, you can use the features in your email program or you can use LibreOffice Writer's mail merge facilities to create the document and send it. See Chapter 14, Mail Merge, in the **Writer Guide** for details.

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 checksum is computed from the document's content plus your personal key. The checksum and your public key are stored 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.

For a more detailed description of how to get and manage a certificate, and signature validation, see “Applying Digital Signatures” in the LibreOffice Help.
Applying a digital signature

The following procedure is an example of how to digitally sign a document. The actual procedure depends on how your computer is set up and its operating system.

1) Choose **File > Digital Signatures > Digital Signatures**.
   - If you have set LibreOffice to warn you when the document contains comments or recorded changes (see “Removing personal data” on page 358), you may see a message box asking whether you want to continue signing the document. Click **Yes** to continue.
   - If you have not saved the document since the last change, a message box appears. Click **Yes** twice: once to continue and again to save the file.

2) The Digital Signatures dialog (Figure 319) opens. It lists existing signatures together with their description (if they have any). Click the **Sign Document** button to add a new signature to the document.

3) In the Select Certificate dialog (Figure 320), select your certificate, add an optional description, and click **Sign** to return to the Digital Signatures dialog.
   The certificate used is displayed in the dialog with an icon next to its name. This icon indicates the status of the digital signature.

4) Click **Close** in the Digital Signatures dialog 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.

Changing an existing description invalidates the signature. However, multiple signatures from the same author are allowed, because each signature can have a different description.

*Figure 318: Signatures of the document*
Including a signature line (Writer and Calc)

You can generate a graphic box representing a signature line using Insert > Signature Line (Figure 320), and you can optionally sign the signature line using a digital certificate.
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, click the Options button to display a dialog where you can set LibreOffice to warn you when files contain certain information and/or automatically remove personal information 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 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 go to File > Versions, select the versions from the list and click Delete; or use File > Save As and save the file with a different name.

Redaction

You can redact documents to remove or hide sensitive information, to allow the selective disclosure of information in a document while keeping other parts of the document secret. For example, when a document is subpoenaed in a court case, information not specifically relevant to the case at hand is often redacted.

To redact a document:

1) Open the document in LibreOffice.

2) Click Tools > Redact on the Menu bar, and wait for the document to be prepared for redaction and transferred to Draw. The Redaction toolbar (Figure 322) opens.

3) Do the redaction by using the Rectangle Redaction and Freeform Redaction tools on the Redaction toolbar. The shapes will be transparent and in gray so you can see what you are redacting.

4) Optionally use the Export Directly as PDF tool to make an in-redaction copy of the document in PDF to use as a verbatim copy for review. The redacted items will be in transparent grey.

5) To finalize the redaction, select the desired option (black or white) on the Redacted Export tool. The transparent grey shapes are converted to opaque black or white shapes and the document is exported as a pixellized PDF. There will be no selectable text in it, and the redacted content will be non-existent.
Auto-redaction
To partially automate the redaction process, you can define certain words (such as names) to be redacted wherever they are found in the document. To do this, choose **Tools > Auto-Redact** on the Menu bar to open the Automatic Redaction dialog (Figure 323). Here you can load a list of terms (targets), add targets, delete targets, edit targets, and save a list of targets.

This feature is not available in Draw.

![Automatic Redaction dialog](image)

*Figure 323: Automatic Redaction dialog*
Chapter 11
Images and Graphics
Pictures, Drawing Tools, Gallery, Fontwork
Introduction

You can add graphic and image files, including photos, drawings, and scanned images, to LibreOffice documents. Images in LibreOffice are of these basic types:

- Image files, such as photos, drawings, PDF documents, and scanned images
- Diagrams created using LibreOffice's drawing tools
- Artwork created using clip art or Fontwork
- Charts created using LibreOffice's Calc component

This chapter covers images, diagrams, and Fontwork. For more detailed instructions on working with drawing tools, see the Draw Guide and Impress Guide. Instructions on how to create charts are given in the Calc Guide.

Creating and editing images

You might create images using a graphics program, scan them, or download them from the Internet (make sure you have permission to use them), or use photos taken with a digital camera. LibreOffice can import various vector (line drawing) images, and can rotate and flip such images. LibreOffice also supports raster (bitmap) file formats, the most common of which are GIF, JPG, PNG, and BMP. See Appendix B for a full list of the graphic formats LibreOffice can import.

LibreOffice can also import SmartArt images from Microsoft Office files. For example, Writer can open a Microsoft Word file that contains SmartArt, and you can use Writer to edit the images.

To edit photos and other bitmap images, use a bitmap editor. To edit line drawings, use a vector drawing program. You do not need to buy expensive programs. For many graphics, LibreOffice Draw is sufficient. Open-source (and usually no-cost) tools such as GIMP (bitmap editor) and Inkscape (vector drawing program) are excellent. These and many other programs work on Windows, macOS, and Linux.

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, by dragging them from the clip art internal gallery, 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 a LibreOffice document using one of the following methods:

Drag and drop

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.

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.

Insert Image dialog

1) Click in the LibreOffice document where you want the image to appear.
2) Choose Insert > Image on the Menu bar or click the Insert Image icon on the Standard toolbar.
3) On the Insert Image dialog, navigate to the file to be inserted, and select it.

4) At the bottom of the dialog (Figure 324) is a Link option. See “Linking an image file” on page 363 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.

![Insert Image dialog](image)

**Figure 324: Insert Image dialog**

**Copy and paste**

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 or program and the target LibreOffice document.

2) In the source document, select the image to be copied.

3) Copy the image to the clipboard.

4) Switch to the target document.

5) Click to place the cursor where the image is to be inserted.

6) Press Ctrl+V, or right-click and select Paste in the context menu, or click the Paste icon on the Standard toolbar, to insert the image.

**Caution**

If the application from which the image was copied is closed before the image is pasted into the target, the image stored in the clipboard could be lost.
Linking an image file

If the Link option in the Insert Image 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** – You can modify the image file separately, 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.
- **Advantage** – Linking can reduce the size of the document when it is saved, because the image file itself is not included. However, file size is usually not a problem on a modern computer, and LibreOffice can handle quite large files.
- **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, 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, LibreOffice embeds only one copy of the image file.

**Embedding linked images**

If you originally linked the images, you can easily embed one or more of them later if you wish.
1) Open the document in LibreOffice and choose Edit > Links to External Files.
2) In the Edit Links dialog (Figure 325), select the files you want to change from linked to embedded.
3) Click the Break Link button and then click Yes to confirm embedding the image.

**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 your document as an image. To start this procedure, choose Insert > Media > Scan > Select Source on the Menu bar. Select the scan source from the list of available devices, then click in the document where you want the graphic to be inserted, and choose Insert > Media > Scan > Request to open the imaging software where you can adjust settings for image quality, size, and other attributes.

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 scanning 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 326) 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 the Writer, Calc, Impress, and Draw components of LibreOffice. See “Managing the LibreOffice Gallery” on page 368. You can copy or link an object from the Gallery into a document.

![Figure 326: The Gallery in Icon View](image)

To insert an object from the Gallery into a document:

1) Click the Gallery icon on the Sidebar.
2) Select a theme from the list provided, and select an object with a single click.
3) Drag and drop the image into the document, or right-click on the object and choose Insert in the context menu.

To insert an object as a link, hold down the Shift and Ctrl keys and drag and drop the object into the document.

**Modifying, handling, and positioning images**

LibreOffice provides many tools for cropping, resizing, modifying, filtering, and positioning images; wrapping text around images; and using images as backgrounds and watermarks. These tools are described in relevant chapters of the other guides. Some sophisticated adjustments are best done in an image manipulation program and the results brought into LibreOffice, rather than using LibreOffice's built-in tools.

**Using the Image toolbar**

When you insert an image or select one already present in the document, the Image toolbar appears. Two other toolbars can be opened from this one: the Image Filter toolbar, which can be torn off and placed elsewhere on the window, and the Color toolbar, which opens as a separate floating toolbar. From these three toolbars, you can apply small corrections to the image or obtain special effects: transparency, color adjustment, flipping and rotating, and applying special-effects filters. For more information, see the *Writer Guide*.

**Cropping images**

When you are only interested in a section of the image for the purpose of your document, you may wish to crop (cut off) parts of it. LibreOffice provides two ways to crop an image: the Crop tool and the Crop tab of the Image dialog in Writer (accessed by right-clicking on the image and selecting Properties in the context menu). The Crop tool provides a quick and easy way to crop an image; but for more control, use the Image dialog. For more information, see the *Writer Guide*.

**Note**

If you crop an image in LibreOffice, the image itself is not changed. LibreOffice hides, but does not cut off, part of the image. If you export the document to HTML, the original image is exported, not the cropped image. For exporting individual cropped images, see "Exporting (saving) images" on page 366.

**Resizing an image**

To fit the image into your document, you may need to resize it. A quick and easy way to resize is by dragging the image’s sizing handles:

1) Click the image, if necessary, to show the sizing handles.

2) Position the pointer over one of the sizing handles. The pointer changes shape, giving a graphical representation of the direction of the resizing.

3) Click and drag to resize the image.

**Tip**

The corner handles resize both the width and the height of the image simultaneously, while the other four handles resize only one dimension at a time. To retain the original proportions of the image, hold down the Shift key while dragging one of these handles.

For more accurate resizing of images, use the Type tab of the Image dialog.
Rotating or flipping an image

To quickly flip an image vertically or horizontally, or rotate it, right-click the image and select *Rotate or Flip* in the context menu, then choose the desired option from the submenu.

Writer provides more rotation options than the other LibreOffice components. See the *Writer Guide* for more information.

Other settings

The Image dialog in Writer has ten tabs:

- **Type**: define the size and anchor of the image and its position on the page.
- **Options**: give the image a descriptive name, define the alternative text to be displayed when the mouse hovers over the image, and protect some of the image settings from changes.
- **Wrap**: choose how text wraps around the image, and the spacing between the image and the text.
- **Hyperlink**: associate a hyperlink to the image, or create an image map.
- **Image**: flip or rotate the image, and display the original location of the file in case the image is linked rather than embedded.
- **Crop**: cut off portions of the image, scale it and set its size.
- **Borders**: create borders around the image and add a shadow.
- **Area**: change the background (color, bitmap, gradient, pattern, or hatching) of the image. This setting produces the desired results only for images with a transparent color.
- **Transparency**: set the transparency and gradient options for the image.
- **Macro**: associate a macro to the image. You can choose among the predefined macros or write your own.

Exporting (saving) images

To make complex adjustments to the image in another program, or to save the image for use in another document, you can export it directly from the document. Right-click on the image and choose *Save* in the context menu to open the Image Export dialog. LibreOffice will let you save the picture in several formats. Name the image, select the desired image format in the File type list, and click *Save*.

Before the image is saved another dialog opens, where you can choose various image size and format options. The content of this dialog depends on the output file type selected. If the image has been modified within Writer, you will also see a confirmation dialog where you can choose to save the original version or the modified version of the image.

Compressing images

If you insert a large image in a document and resize it to fit into the layout of the page, the complete full-size original image is stored in the document file to preserve its content, possibly resulting in a large document file to store or send by mail.

If you can accept some loss of quality of the image rendering or want to resize it, you can compress or resize the image object to reduce its data volume while preserving its display in the page layout.

Right-click to select the image and open the context menu. Then choose *Compress* to open the Compress Image dialog (Figure 327). Use the **Calculate New Size** button to update the image information on the dialog on each parameter set you change.
Click **OK** to apply the compression settings. If the resulting image is not acceptable, press **Ctrl+Z** to undo and choose another compression setting. For more information, see the Help.

![Figure 327: The Compress Image dialog](image)

**Positioning images**

When you add an image to a document, you need to choose how to position it with respect to the text and other images. For details, see the relevant component guide (Writer, Calc, and so on).

Positioning is controlled by four settings:

- **Arrangement** refers to the placement of an image on an imaginary vertical axis. Arrangement controls how images are stacked upon each other or relative to the text.
- **Alignment** refers to the vertical or horizontal placement of an image in relation to the chosen anchor point.
- **Anchoring** refers to the reference point for the images. This point could be the page, the frame or cell where the object is, a paragraph, or even a character. An image always has an anchor point.
- **Text wrapping** in a Writer document refers to the relation of images to the surrounding text, which may wrap around the image on one or both sides, be overprinted behind or in front of the image, or treat the image as a separate paragraph or character.

In Writer, the settings can be accessed in several ways, depending on the nature of the graphic:

- In the **Format** menu: **Anchor**, **Wrap**, and **Arrange** (for images and drawing objects).
- In the context menu displayed when you right-click the graphic; this menu also includes an **Align** option.
- For images, on the **Type** and **Wrap** tabs of the Image dialog. Note that you cannot control the arrangement using the dialog.
- For drawing objects, on the **Position and Size** tab of the Position and Size dialog.
- For an embedded object (such as a Calc spreadsheet or Draw document), on the OLE-Object toolbar.
Adding captions to images
You can add captions to Writer images in three ways: automatically, by using the Caption dialog, or manually. See the Writer Guide for details.

Managing the LibreOffice Gallery
Graphics in the Gallery are grouped by themes, such as Arrows, Diagrams, and Icons. 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 326) or Detailed View (Figure 328), and you can hide or show the Gallery by clicking on the Sidebar’s Hide button.

![Figure 328: Gallery in Detailed View](image)

**Note**
The default themes supplied with LibreOffice can not be customized, although new themes can be added; see “Adding a new theme to the Gallery” below. The locked themes are easily recognizable by right-clicking on them; the only option in the context menu is Properties.

Adding a new theme to the Gallery
You may wish to add your own theme to the Gallery to hold any images or other objects that you use frequently, for example, a company logo. Or you may wish to add several themes, each holding images for a specific project.

To add a new theme to the Gallery:

1) Click the New button below the list of themes (Figure 328).
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 below.

Tip

You can also get more gallery themes from the LibreOffice extensions website at https://extensions.libreoffice.org/, including themes from previous versions of LibreOffice, that are no longer installed by default with the program. See Chapter 14, Customizing LibreOffice, for instructions on how to manage extensions.

Adding objects to the Gallery

To add objects to a theme that you have created:

1) Right-click on the name of the theme and select Properties in the context menu.

2) In the theme's Properties dialog, click the Files tab (Figure 329).

![Figure 329: Gallery Properties dialog](image)

To add several files at once:

1) In the Properties dialog, 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 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) In the Properties dialog, 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 and themes from the Gallery

To delete an image from a theme, right-click on the name of the image file or its thumbnail in the Gallery, then click Delete in the context menu. A message appears, asking if you want to delete this object. Click Yes.
To delete a theme from the Gallery, select it from the list of themes, right-click, then click **Delete** in the context menu. You cannot delete a theme supplied with LibreOffice.

**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.

**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.

**Note**

The locations of Gallery themes distributed through LibreOffice extensions are determined by the extensions’ settings.

**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, Creating HTML Files). 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). You can create hotspots of various shapes and include several hotspots in the same image.

To use the image map editor:

1) In the LibreOffice document, click on the picture in which you want to define the hotspots.

2) Choose **Tools > ImageMap** on the Menu bar. The ImageMap Editor dialog opens. The main part of the dialog shows the image on which the hotspots are defined.

3) Use the tools and fields in the dialog to define the hotspots and links necessary. A hotspot is identified by a line indicating its shape. The information needed for the hotspot includes the address pointed to by the hyperlink and the text you want to be displayed when the mouse pointer is moved over the hotspot.

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 close the dialog.

For details, see Chapter 11, Images and Graphics, in the **Writer Guide**.
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 the document or 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 images 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 and styles.

Creating drawing objects

To begin using the drawing tools, display the Drawing toolbar (Figure 330) by clicking View > Toolbars > Drawing or by clicking on the Show Draw Functions icon on the Standard toolbar.

Tip

If you are planning to use the drawing tools repeatedly, you can tear off (undock) this toolbar and move it to a convenient place as a floating toolbar in the window.

![The Drawing toolbar (Writer version)](image)

Figure 330: The Drawing toolbar (Writer version)

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 on the Drawing toolbar (Figure 330). The mouse pointer changes to a drawing-functions pointer and the normal Formatting toolbar changes to Drawing Object Properties toolbar (Figure 331).

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 at the left-hand end of 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 331) or the choices and dialogs reached by right-clicking on the drawing object.

Setting or changing properties for drawing objects

To set the properties for a drawing object before you draw it:

1) On the Drawing toolbar (Figure 330), click the Select tool.
2) On the Drawing Object Properties toolbar (Figure 331), 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.

The default you set applies to the current document and session. It is not retained when you close the document or close LibreOffice, 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, select the object and continue as described above.

You can also specify the position and size, rotation, and slant and corner radius properties of the drawing object: right-click on the drawing object and then choose Position and Size in the context menu. 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 size. The object will be scaled up or down. When you grab the handle of an object and drag it, LibreOffice will resize disproportionately; if you also press the Shift key, the resizing will keep object proportions.

For more sophisticated control of the size of the object, right-click on the object and choose Position and Size in the context menu. Use the Position and Size tab to set the position and size independently. If the Keep ratio option is selected, then the two dimensions change so that the proportion is maintained, resulting in a scaled resizing.
Grouping drawing objects

Grouping drawing objects makes it easier to handle several objects as a single entity, while preserving their relative sizes and positions. When objects are 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.

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 on the Menu bar, or click the Group icon on the Drawing Object Properties toolbar, or right-click and choose Group in the context menu.

Note

You cannot include an embedded or linked image in a group with drawing objects.

You can edit an individual member of a group without ungrouping or breaking the group. Select the group and go to Format > Group > Enter Group on the Menu bar, or right-click and select Enter Group in the context menu, or click the Enter Group icon on the Drawing Object Properties toolbar. When you have finished editing an individual member of a group, go to Format > Group > Exit Group on the Menu bar, or right-click and select Exit Group in the context menu, or click the Exit Group icon on the Drawing Object Properties toolbar.

To ungroup or break apart a group of objects, select the group then go to Format > Group > Ungroup on the Menu bar, or right-click and select Ungroup in the context menu, or click the Unroup icon on the Drawing Object Properties toolbar.

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 the Writer, Calc, Impress, and Draw components 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, or choose Insert > Fontwork on the Menu bar.

2) In the Fontwork Gallery dialog (Figure 332), select a Fontwork style (scroll down to see more choices), then click OK.

   The Fontwork object will appear in your document. Notice the squares around the edge (indicating that the object is selected) and the differently colored dot; these are discussed in “Moving and resizing Fontwork objects” on page 376.

3) Resize the object using one of the corner handles (hold down the Shift key to keep the sides proportional), or right-click and choose Position and Size in the context menu for more precise sizing.
4) Double-click the object to edit the Fontwork text (Figure 333). Type your own text in place of the black text that appears over the object.

5) 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 334, is visible. If you do not see it, go to **View > Toolbars > Fontwork**. Click on the different icons to edit Fontwork objects.
1 **Fontwork Gallery**: Opens the Fontwork Gallery (Figure 332).

2 **Fontwork Shape**: Edits the shape of the selected object. You can choose from a palette of shapes.

3 **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.

4 **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.

5 **Fontwork Character Spacing**: Changes the character spacing and kerning in the object. Select from the choices in the drop-down list. Choices are *Very Tight*, *Tight*, *Normal*, *Loose*, *Very Loose*, and *Custom...*, which opens a small dialog where you can specify a percentage.

6 **Toggle Extrusion**: changes a 2D Fontwork object into a 3D object or a 3D object into a 2D object.
Using the Formatting toolbar
You can customize the Fontwork object with several more attributes. Click on the object; the Formatting toolbar changes to show the options for customizing the object. These choices are the same as the ones for other drawing objects, described earlier in this chapter. See also the Draw Guide for details.

Using menu options
You can use some of 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 in the context menu. The context menu also provides quick access to the Line, Area, and Position and Size dialogs. 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 Toggle Extrusion icon on the Fontwork toolbar. For more information, see the Draw Guide.

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 dark or colored dot also appears on the object. This dot may be in the same place as a handle, or it may be somewhere else. If you hover the cursor over this dot, the cursor changes shape. You can drag the dot in different directions to distort the object.

Hovering the cursor over other parts of the object turns the cursor 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, and to rotate the object, use the Position and Size dialog.

Figure 337: Handles and distortion dot on Fontwork object
Generating a QR code

A QR code (short for Quick Response code) is a type of barcode. QR codes often contain data that points to a website or application. Writer, Calc, Impress, and Draw can generate QR codes.

1) Choose **Insert > Object > QR Code** on the Menu bar to open the QR Code Generator dialog (Figure 338).

2) Fill in the *URL/Text* field, select a correction factor (the complexity of the graphic generated), and the width of the border around it, then click **OK**. Figure 339 shows the code generated by the input in Figure 338.

![QR Code Generator dialog](image1)

![QR code example](image2)

Figure 338: QR Code Generator dialog  
Figure 339: QR code example

After the QR code has been generated, it is possible to edit it by right-clicking in the code and selecting **Edit QR Code**.
Chapter 12
Creating HTML Files
Saving documents as HTML files
Introduction

HTML (Hypertext Markup Language) capabilities in LibreOffice make it possible to save and export 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 and export documents as HTML files.
• Create, edit, and save HTML documents using Writer/Web.

When creating a document that you plan to deliver as an HTML file, 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 on the Menu bar and choose if you want URLs (Universal Resource Locators) saved relatively when referencing the file system, or the Internet, or both.

LibreOffice will always display an absolute hyperlink. It does this even when you have saved a relative hyperlink. This ‘absolute’ target address will be updated if you move the file.

Note

HTML files containing links relative to the file system that will be uploaded to a web server require the files be in a folder structure matching that of the web server. Otherwise, the links will point to the wrong folder.

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 (for example, saving a 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 address 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 the AutoCorrect dialog (Tools > AutoCorrect > AutoCorrect Options in Writer or Tools > AutoCorrect Options in Calc, Draw, and Impress) and selecting URL Recognition on the Options tab. If you do not want automatic hyperlink creation, you can turn it off by deselecting the URL Recognition option.

If you do not want LibreOffice to convert a specific URL to a hyperlink, you can go to Edit > Undo 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 in the context menu.

Tip

To change the color of hyperlinks, go to Tools > Options > LibreOffice > Application Colors, 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 use the Navigator in Writer or Calc to insert a hyperlink to another part of the same document or to another document.

1) Open the documents containing the items you want to cross-reference.
2) Click the Navigator icon on the Sidebar, select View > Navigator on the Menu bar, or press F5.
3) Click the triangle to the right of the Drag Mode icon and select Insert as Hyperlink (Figure 340). 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 340: Inserting a hyperlink using the Navigator
4) Select the document in 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 Image6, 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 **Insert Hyperlink** icon on the Standard toolbar or go to **Insert > Hyperlink** on the Menu bar, or press Ctrl+K to open the Hyperlink dialog (Figure 341).

![Hyperlink dialog](image.png)

**Figure 341: Hyperlink dialog showing details for Internet links**

3) On the left side, select one of the four categories of hyperlink:
   - **Internet**: the hyperlink points to a web address, normally starting with https://, or an FTP (File Transfer Protocol) address, normally starting with ftp://.
   - **Mail**: 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, as described below.
5) Click **Apply** or **OK** to create the hyperlink. Clicking **Apply** leaves the dialog open, allowing you to keep editing the recently created hyperlink. **OK** closes the dialog.

6) Click **Close** to close the Hyperlink dialog.

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 (Figure 341), choose the type of hyperlink (Web or FTP), and enter the required web address (URL). For an FTP address (Figure 342), you can also define the login name and password if needed. **Text** is the words that become a hyperlink in the document.

- For a **Mail** hyperlink (Figure 343), specify the address of the receiver and the subject.

- For a **Document** hyperlink (Figure 344), specify the document path (click the **Open File** icon to open a file browser) or leave this blank 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 (Figure 345), 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** determines how the hyperlink will open in a Web browser.
- **Form** specifies if the link is to be presented as text or as a button.
- **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. [This setting is in the upper part of the dialog for Internet links (Figure 341).]
- **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** icon opens the Assign Macro dialog. 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 Insert Hyperlink icon on the Standard toolbar, or go to Edit > Hyperlink on the Menu bar, or press Ctrl+K, or right-click and select Edit Hyperlink in the context menu.
3) In the Hyperlink dialog, make your changes and click **Apply** to save the 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** by deselecting the option **Ctrl-click required to open 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** in the context menu. You may then need to re-apply some formatting to match the text with the rest of your document.

To remove the link text or button from the document, select it and press the **Delete** key.

**Saving and exporting documents as HTML files**

The easiest way to create HTML documents in LibreOffice is to start with an existing document. In Writer, you can get a good idea of how it will appear as a web page by using **View > Web**. However, Web 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 379 for what to consider before creating a web page from a document.

**Writer documents**

**Saving a Writer document as HTML**

To save a Writer document as HTML, go to **File > Save As** on the Menu bar and select **HTML Document (Writer)** as the file type in the Save As dialog. You may be prompted to confirm that you wish to continue using the HTML format.

Saving a document as HTML produces a set of files. LibreOffice generates the image files and the HTML file necessary to create an HTML page in a browser. The number of files generated by the format conversion depends on the number of images and objects in the original text document.

**Tip**

Use an empty folder to save your document as HTML file and images.

The file names are created following a simple rule summarized in Table 6.

**Table 6: File types created when saving as HTML format**

<table>
<thead>
<tr>
<th>File</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myfile.html</td>
<td>The text contents, page layout, text attributes, meta tags, and styles.</td>
</tr>
<tr>
<td>Myfile_html_[random number].gif</td>
<td>GIF images of visible contents of OLE objects.</td>
</tr>
<tr>
<td>Myfile_html_[random number].png, jpg, or bmp</td>
<td>Images inserted in the text document as PNG, BMP, or JPEG keep their original format.</td>
</tr>
</tbody>
</table>
The HTML transformation of the text document is limited by the HTML 4.0 Transitional specification. Text documents in office suites have a richer set of resources that will not appear in HTML, for example page formatting. Do not expect the same layout fidelity when saving a file in HTML format.

Saving as HTML may require more work directly on the HTML code to adjust the layout of the web page. See “Creating, editing, and saving HTML files using Writer/Web” on page 390.

**Exporting a single web page**

Another way to create a HTML file is to use File > Export and specify XHTML (Extensible Hypertext Markup Language) as the file type. LibreOffice will generate one XHTML 1.1 file per text document. The image files are embedded in the XHTML file. XHTML files created by exporting a text document in LibreOffice have significantly better layout rendering but fail to render objects other than images.

**Notes**

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 or Ctrl+Shift+Spacebar (depending on the operating system), instead of just Spacebar.

The Tab character is not rendered on exporting to XHTML. Instead, use borderless tables to position contents instead of the Tab character in a line. This also affects bullet and number lists that insert by default a Tab character between the bullet or number and the text. Use a list style where the Tab character is replaced by a space.

Objects different from usual image formats are not rendered in LibreOffice XHTML output. These include drawings, spreadsheets, charts, and OLE object in general. To render an OLE object in XHTML, first transform its visible contents into an image and then replace the object in your document with the image.

The use of styles in the text document is strongly recommended for getting the best results when exporting to HTML or XHTML.

**Saving as a 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 346).

3) Type the file name to save the pages under.

4) Specify which style indicates a new page by using the separated by drop-down list at the bottom of the dialog (for example, Outline: Level 1).

5) Click Save to create the multi-page HTML document. The resulting HTML files conform to the HTML 4.0 Transitional standard.
Calc spreadsheets
Calc can save files as HTML documents. Go to File > Save As on the Menu bar and select HTML Document (Calc) as the file type in the Save As dialog.

If the file contains more than one sheet, 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 380 for more information on hyperlinks.

Impress presentations
Impress presentations cannot be saved in HTML format, but have to be exported as HTML documents. The HTML files created will then use the default settings that you have not changed.

Notes
Saving in HTML format does not retain animation and slide transitions.
You can click Create on the HTML Export dialog at any step in the following procedure.

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 Export or Save to open the HTML Export dialog / wizard (Figure 347).
3) On the Assign Design page, you can choose to create a new design and select or delete an existing design. Select New design or 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 design from the list. If you delete a design, you will only delete the design information. An export file will not be deleted by this action.
6) Specify the publication type for the web pages (Figure 348), 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.
- **Single-document HTML** – creates a single file containing the text of the presentation, but not the layout or images.
- **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.

Options are also provided to create a title page and to display your notes. For more information about the options on this page of the HTML Export dialog, click Help.
7) Specify the options for saving images, monitor resolution, and effects used for the web pages (Figure 349), then click **Next >**. The options on this page are as follows:

- **Save Images 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.

![HTML Export dialog – image format, monitor resolution, and effects page](image)

8) Specify the Information for the title page to be used with the web version of your presentation (Figure 350). The title page normally contains the author’s name, an email address, a home page address, and any additional information you want to include. This page is only available if you have selected to create a title page (option only applicable to the **Standard HTML format** and **Standard HTML with frames** publication types).

![HTML Export dialog – title page information page](image)
9) 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 >**.

10) Select the button style to be used for the web pages from the designs available (Figure 351) 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 351: HTML Export dialog – button style page](image)

11) Select the color scheme to be used for the web pages (Figure 352), including colors for text, links, and background. This page is not available if you have selected either **Automatic** or **WebCast** publication type.

![Figure 352: HTML Export dialog – color scheme page](image)

12) Click **Create**.

13) If you have created a new design for your web pages, a small Name HTML design dialog opens. Type a name for the design and click **OK**.
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. It is recommended to create a folder to hold all the files created for the web version of your presentation. 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.

Draw documents

Draw documents cannot be saved in HTML format, but have to be exported as HTML documents. Exporting drawings 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.

Creating, editing, and saving HTML files using Writer/Web

LibreOffice Writer can create, edit, and save files in HTML format using a configuration called Writer/Web.

Writer/Web display modes

In addition to the Normal and Web display modes for editing (Figure 353), Writer/Web has a third editing mode called HTML Source mode (Figure 354). You can select this view when creating a new HTML document or after opening an existing one. With the HTML Source mode, you can directly edit HTML tags such as \texttt{<p>}, \texttt{<ul>}, \texttt{<table>}, and so on to compose web page elements. In that mode you must be familiar with the HTML markup language.

You normally add content to an HTML document using the Web display mode, because it will render the contents as if displayed in a browser. Use the HTML Source editing mode to tweak the formatting.

Note

Because HTML markup language has fewer formatting possibilities than a text document in OpenDocument Format, Writer/Web cannot provide all formatting features for HTML documents and some formatting dialogs have fewer options available. For example, a HTML paragraph has no tab settings.

![Writer in HTML Mode](image)

Figure 353: Web display mode for Writer/Web
Creating and editing a HTML document

To create a HTML document, choose File > New > HTML Document. Writer/Web opens a blank document in Web display mode. You can now add content to the document by typing or pasting text, images, tables, and other objects. Use all the Writer/Web formatting resources including styles to format the content. When you have finished, save the document with the HTML file type.

If you need to add HTML content directly into the document, enter HTML Source editing mode by clicking the HTML Source icon on the Standard toolbar, or choosing View > HTML Source on the Menu bar. If you haven't saved a new document, Writer/Web will ask you to do so before it switches to HTML Source editing mode. In that mode, Writer/Web turns into a notepad-like text editor (Figure 354).

Note

The HTML markup content generated by Writer/Web is limited to the production of a displayable document in a web browser. It does not consider other components of a website such as external cascading style sheets (CSS), external JavaScript, or other script languages. Use the HTML Source mode to manually insert links to these external components into the page.

Checking a web page in a browser

It is important to check your web pages (HTML documents) in a web browser such as Mozilla Firefox, Google Chrome, Microsoft Edge, or Safari. Not all browsers render HTML files the same way, so if possible, check the contents in several browsers.

To make LibreOffice open your default web browser and display the contents of an HTML document, go to File > Preview in Web Browser on the Menu bar, or click the Preview in Web Browser icon on the Standard toolbar. You can also open any web browser and then open the HTML file in it.
Chapter 13
Getting Started with Macros

Using the Macro Recorder … and Beyond
**Introduction**

A macro is a set of commands or keystrokes that are stored for later use. An example of a simple macro is one that enters your address into an open document. You can use macros to automate both simple and complex tasks. Macros are very useful when you have to repeat the same task in the same way.

The simplest way to create a macro is to record a series of actions through LibreOffice’s user interface. LibreOffice saves recorded macros using the open source LibreOffice Basic scripting language, which is an implementation of the well-known BASIC programming language. Such macros can be edited and enhanced after recording using the built-in LibreOffice Basic Integrated Development Environment (IDE).

The most powerful macros in LibreOffice are created by writing code using one of the four supported scripting languages (LibreOffice Basic, BeanShell, JavaScript, and Python). This chapter provides an overview of LibreOffice’s macro facilities, mostly focused on its default macro scripting language, LibreOffice Basic. Some introductory examples are included for the BeanShell, JavaScript, and Python scripting languages. However, an in-depth discussion of how to use these languages for scripting is beyond the scope of this chapter.

**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 you may have found in a book or on the internet. For this example, the macro in Listing 1 is used. You should create a library and module to contain your macro; see “Macro organization” on page 406 for more information.

Listing 1: Simple macro that says hello

```vba
Sub HelloMacro
    Print "Hello"
End Sub
```

Use the following steps to create a library that will contain your macro:

1) Open any LibreOffice application.
2) Go to **Tools > Macros > Organize Macros > Basic** to open the Basic Macros dialog (Figure 355).
3) Click **Organizer** to open the Basic Macro Organizer dialog (Figure 356) and select the **Libraries** tab.
4) Set the **Location** drop-down to **My Macros & Dialogs**, which is the default location.
5) Click **New** to open the New Library dialog (not shown here).
6) Enter a library name, for example **TestLibrary**, and click **OK**.
7) On the Basic Macro Organizer dialog, select the **Modules** tab (Figure 357).
8) In the **Module** list, expand **My Macros** and select your library (in the 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.
9) Select **Module1**, or the new module that you created, and click **Edit** to open the Integrated Development Environment (IDE) (Figure 358). The IDE is a text editor and associated facilities that are built into LibreOffice and allow you to create, edit, run, and debug macros.
Figure 355: Basic Macros dialog

Figure 356: LibreOffice Basic Macro Organizer dialog, Libraries tab
Figure 357: Basic Macro Organizer dialog, Modules tab

Figure 358: Integrated Development Environment window
10) When a new module is created, it contains a comment and an empty macro named `Main`, which does nothing.

11) Add the new macro either before `Sub Main` or after `End Sub`. Listing 2 shows the new macro added before `Sub Main`.

   **Listing 2: Module1 after adding the new macro**
   ```basic
   REM ***** BASIC *****
   Sub HelloMacro
     Print "Hello"
   End Sub
   Sub Main
   End Sub
   ```

12) Click the **Compile** icon on the Macro toolbar to compile the macro.

13) Select the `HelloMacro` subroutine in the **Object Catalog** window and click the **Run** icon on the Macro toolbar, or press the F5 key, to run the `HelloMacro` subroutine in the module. A small dialog will open with the word “Hello” displayed (see below).

14) Click **OK** to close this small dialog.

15) If no subroutine or function is selected, a dialog like the one in Figure 359 will open. Then select the macro and click **Run** to execute it.

![Figure 359: Dialog to select and run a macro](image-url)
16) 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 > Basic.

17) Select a macro and then click Run.

Recording a macro

When you record a macro in LibreOffice, you are actually recording the steps to perform a certain task using programming language. For example, consider that you have to repeatedly enter the same information into a document. You can copy this information after it has been entered into the document for the first time, then paste the information into the document each time you want to use it. However, if something else is copied to the clipboard, the contents of the clipboard are changed. This means that you have to re-copy this piece of information again to later paste it into the document. To overcome this problem, you can create a macro that enters this piece of information without having to copy it every time you need it.

Note

For some cases when you want to repeatedly enter information into a document, it may be more convenient to create an AutoText. See Chapter 2, Working with Text: Basics, in the Writer Guide for more information.

Make sure macro recording is enabled by going to Tools > Options > LibreOffice > Advanced and selecting the option Enable macro recording under Optional Features. By default, this feature is turned off in LibreOffice.

1) Go to Tools > Macros > Record Macro to start recording a macro. A small dialog with a Stop Recording button is displayed indicating that LibreOffice is recording a macro.

2) Type the desired text you want to be entered when this macro is run. As an example, type your name.

3) Click Stop Recording on the small dialog. This will cause Basic Macros dialog to open (similar to Figure 355 on page 394, but with different action buttons).

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 then choose an existing module in which to save the macro. Alternatively you can click New Module to create a new module to contain the newly recorded macro.

7) In the Macro Name text box at the top left section of the dialog, type a name for the macro you have just recorded, for example EnterMyName.

8) Click Save to save the macro and close the Basic Macros dialog.

If you followed all of the above steps, a macro named EnterMyName will have been created inside the selected module.

Note

Whenever you create a new module in LibreOffice, a subroutine named Main is automatically added to the module.

Running a macro

1) Go to Tools > Macros > Run Macro to open the Macro Selector dialog (Figure 360).

2) For example, select your newly created macro EnterMyName and click Run.
3) Alternatively, go to **Tools > Macros > Organize Macros > Basic** to open the Basic Macros dialog (Figure 355), select your macro and click **Run**.

![Macro Selector dialog](image)

**Figure 360: Use the Macro Selector dialog to select and run an existing macro**

### Viewing and editing macros

To view and/or edit the macro that you created:

1) Go to **Tools > Macros > Organize Macros > Basic** to open the Basic Macros dialog.
2) Select your new macro *EnterMyName* and click **Edit**. The Basic IDE will open and the macro *EnterMyName* will be shown as in Listing 3.

This first macro is not complicated. A little explanation will significantly help you in understanding macros. The discussion starts with first line of the macro and describes features through the whole listing.

**Listing 3: Code recorded for the EnterMyName macro**

```vba
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
```

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Commenting with REM

All comments in Basic macro coding begin with REM, which stands for remark. All text after REM on the same line is ignored by the Basic interpreter when the macro is run.

**Tip**

As a short cut, you can use the single quote character (') 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. Note that the code in Listing 3 for the EnterMyName macro starts with the keyword SUB and ends with END SUB.

There are advanced topics that are beyond the scope of this user guide, but knowing about them might be of interest:

- You can write subroutines that accept input values to be used inside the macro. These values are called arguments. This can only be done when you create subroutines from scratch. Recorded macros in LibreOffice do not accept arguments.
- Another kind of subroutine is called a function, which is a subroutine that can return a value as a result of its work. Functions are defined by the keyword FUNCTION at the beginning. Recorded macros in LibreOffice create subroutines only.

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.

```plaintext
sub EnterMyName

Defines the start of the EnterMyName macro.
```
**dim document as object**

Defines document as an object variable. Objects are a specific variable type with multiple fields (sometimes they are called properties) and actions (also they are called methods). The fields can be perceived like variables (including an object) and actions like subroutines which allow us to operate with the object.

**Note**

Sometimes the word service is used. A service is supplied by a type of object which are distinguished in order to point out how they are used.

**dim dispatcher as object**

Defines dispatcher as an object variable.

**document = ThisComponent.CurrentController.Frame**

ThisComponent is a runtime object created by LibreOffice that 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 DispatchHelper service, which provides an easy way to dispatch a URL using one call instead of multiple ones and 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 the args1 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.

The com.sun.star.beans.PropertyValue expression is a Universal Network Objects (UNO) structure. Structures are special variable types that contain other variables united by logical basis. They can be convenient to operate with sets of heterogeneous information that should be treated as a single whole. An explanation of UNO and user structures goes far beyond the scope of this book. For more information on creating and using structures, see the LibreOffice Help system and other Basic guides.

**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())**

The dispatch helper sends a dispatch to the document frame (stored in the variable document) with the command .uno:InsertText. The next two arguments, frame name and search flags, are beyond the scope of this book. The last argument is the array of property values to be used while executing the command InsertText.
In other words, this line of code executes the UNO command `uno:InsertText` passing the value “Your Name” as the “Text” parameter.

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 complex example of a macro**

A common task is to copy rows and columns of data from a website and format them as a table in a text document as follows:

1) Copy the data from the website to the clipboard.
2) To avoid strange formatting and fonts, paste the text into a Writer document as unformatted text.
3) Reformate the text with tabs between columns so that it can be converted into a table using **Table > Convert > Text to Table**.

With the two questions above in mind, inspect the text to see if a macro can be recorded to format the text. As an example of copied data, consider the text copied from the API website describing the FontWeight constants (Figure 361). 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.

<table>
<thead>
<tr>
<th>Font Weight</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DONTKNOW</td>
<td>The font weight is not specified/known.</td>
</tr>
<tr>
<td>THIN</td>
<td>specifies a 50% font weight.</td>
</tr>
<tr>
<td>ULTRALIGHT</td>
<td>specifies a 60% font weight.</td>
</tr>
<tr>
<td>LIGHT</td>
<td>specifies a 75% font weight.</td>
</tr>
<tr>
<td>SEMILIGHT</td>
<td>specifies a 90% font weight.</td>
</tr>
<tr>
<td>NORMAL</td>
<td>specifies a normal font weight.</td>
</tr>
<tr>
<td>SEMIBOLD</td>
<td>specifies a 110% font weight.</td>
</tr>
<tr>
<td>BOLD</td>
<td>specifies a 150% font weight.</td>
</tr>
<tr>
<td>ULTRABOLD</td>
<td>specifies a 175% font weight.</td>
</tr>
<tr>
<td>BLACK</td>
<td>specifies a 200% font weight.</td>
</tr>
</tbody>
</table>

*Figure 361: Example of copied data*

Suppose you want the first column in the table to contain the numeric value of the font weight, the second column the constant name, and the third column the text description. This task can be accomplished easily for every row except for DONTKNOW and NORMAL, which do not contain a numeric value.

Below are the steps to record this macro using keystrokes and assuming that the cursor is at the beginning of the line with the text “THIN”.

1) Make sure macro recording is enabled by going to **Tools > Options > LibreOffice > Advanced** and selecting the option **Enable macro recording**. By default, this feature is turned off when LibreOffice is installed on your computer.
2) Go to **Tools > Macros > Record Macro** to start recording.
3) Press Ctrl+Right Arrow to move the cursor to the start of the word “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 397.

It takes much longer to read and write the steps above than to actually record the macro. Work slowly and think about the steps as you do them. With practice you will learn how to organize the steps to create macros that can be used to automate repetitive tasks.

The generated macro code in Listing 4 has been modified to contain the step numbers in the comments to match the steps discussed above.

**Listing 4: Copying numeric value to start of the column**

```plaintext
sub CopyNumToCol1
rem define variables
dim document as object
dim dispatcher as object
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 (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 = CHRS(9)
```

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dispatcher.executeDispatch(document, "uno:InsertText", "", 0, args4())

rem (6) Press Delete to delete the lower case s ....
dispatcher.executeDispatch(document, "uno:Delete", "", 0, Array())

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 (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 (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

To run this macro, first place the cursor at the beginning of the line to which you want to apply the recorded steps. Then go to Tools > Macros > Run Macro, select the CopyNumToCol1 macro and click Run. Figure 362 shows the original line and the resulting line after applying the macro.

![Original Line (before running the macro)](image)

To run the macro, place the cursor at the beginning of the line

![New Line (after running the macro)](image)

50 THIN Specifies a 50% font weight.

This is the resulting line after running the macro

Figure 362: Result of applying the recorded macro

Keep in mind that the steps described above will only work properly if the line follows the format we assumed while creating the macro. If you run this macro on the “DONTKNOW” and “NORMAL” lines the results will not be as expected because these two lines have different formats. Figure 363 shows the original line starting with “DONTKNOW”.

![Original Line not following the assumed structure](image)

DONTKNOW The font weight is not specified/known.

Running the macro on a line with a different structure

weight DONTKNOWShe font weight is not specified/known.

Figure 363: Result of using the macro in a line with a different structure

Running a macro quickly

It is not convenient to repeatedly run macros using Tools > Macros > Run Macro. If you frequently need to use a certain macro, you can assign a keyboard shortcut to quickly run it. Next are the steps to assign the shortcut Ctrl+K to the CopyNumToCol1 macro.

1) Go to Tools > Customize. This will open the Customize dialog.

2) Select the Keyboard tab. In the Shortcut Keys section, select the Ctrl+K shortcut.

3) In the Category section, select LibreOffice macros. Navigate this section and select the CopyNumToCol1 macro.

4) Now click the Modify button to assign the Ctrl+K shortcut to the CopyNumToCol1 macro.

5) Click OK to close the Customize dialog.

Now you can run the CopyNumToCol1 macro using the Ctrl+K shortcut. This is very fast and easy to configure after you get used to the macro workflow. Figure 364 illustrates the steps described above.
Limitations of the macro recorder

The Macro Recorder has some limitations, which means that some actions may not be recorded. A deeper knowledge of LibreOffice internal workings helps to understand how and why the macro recorder will work. The main cause of these limitations is 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, the shortcut keys Ctrl+S, or clicking the Save icon on the Standard toolbar are all 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 a new document, the list of recent files is updated.

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 a 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.
If while recording a macro you use **Tools > Options** 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.

```plaintext
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.

**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 365 shows an example of the hierarchical structure of macro libraries in LibreOffice.

![Figure 365: Macro Library hierarchy](image)

Go to **Tools > Macros > Organize Macros > Basic** to open the Basic Macros dialog (Figure 355 on page 394). 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 Macros* 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.

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. However, in contrast to other libraries, the *Standard* and *Template* libraries 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 folder inside the user’s home directory. The location is operating system specific. Go to **Tools > Options > LibreOffice > Paths** to view where other configuration data are stored. User macros written in Basic are stored in *LibreOffice\4\user\basic*. Each library is stored in its own directory inside 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.

**Exporting macros**

The LibreOffice Basic Macro Organizer dialog allows you to export macro libraries so that they can be reused and shared with other people. To export a macro library:

1) Go to **Tools > Macros > Organize Macros > Basic** and the click the **Organizer** button.
2) Click the **Libraries** tab and choose which library you want to export.
3) Click **Export** and then select **Export as BASIC Library** (note that you cannot export the *Standard* library).
4) Choose where you want to save the library and click **Save**.
When a library is exported, LibreOffice creates a folder containing all files related to the library. Figure 366 shows an example of how a library named TestLibrary with a single module called Module1 would be exported.

**Figure 366: Folder containing the exported library**

### Importing macros

The LibreOffice Basic Macro Organizer dialog allows you to import macro libraries into your document as well as creating, deleting, and renaming libraries, modules, and dialogs.

1. On the Libraries tab, select the library container to use and then click **Import** to import macro libraries.

2. Navigate to the directory containing the library to import (Figure 367). 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.

**Figure 367: Navigating to a macro library**

3. Select a file and click **Open** to continue and open the Import Libraries dialog (Figure 368).
4) Select the following options for importing libraries:

- 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.

- Select **Insert as reference (read-only)** if you want to use the library as reference, but not import it into the document. When a library is used as a reference, it remains in its current location and is fully functional, but cannot be modified in the Basic IDE.

- Select **Replace existing libraries** if the library you want to import has the same name and you want to replace the existing library.

5) Click **OK** to import the macro library you selected.

---

**Note**

You cannot export/import the library named *Standard*.

**Tip**

On Linux, LibreOffice-specific files are stored in the user’s home directory inside the `.config` folder. Directories and files with names beginning with a dot may be hidden and not shown in a normal file selection dialog. When using LibreOffice dialogs, rather than the operating system’s specific dialogs, type the name of the desired directory in the *Name* field.

---

**Downloading macros to import**

You can find macros created by the community to download from the internet. Some macros are contained in documents, some as regular files that you need to import, and some are published as text and need to be copied and pasted into the Basic IDE. See “Adding a macro” on page 393 on how to add macros to your macro library and “Viewing and editing macros” on page 398 on how to edit macros using the Basic IDE.

Some macros are available as free downloads on the Internet (see Table 7).
### Table 7. Places to find macro examples

<table>
<thead>
<tr>
<th>Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="https://wiki.documentfoundation.org/Macros">https://wiki.documentfoundation.org/Macros</a></td>
<td>Lots of links to macros.</td>
</tr>
</tbody>
</table>

### How to run a macro

Although you can use **Tools > Macros > Run** to run all macros, this is not efficient for frequently used macros. LibreOffice offers many ways for you to quickly run your macros.

In addition to assigning a shortcut to macros, as seen in “Running a macro” on page 397, you can also link macros to a toolbar icon, menu item, event, or a button embedded in a document. When 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. Where to store a macro

<table>
<thead>
<tr>
<th>Where to place the macro</th>
<th>For all LibreOffice applications</th>
<th>For a specific LO application</th>
<th>For a single document</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toolbar</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Menu</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Shortcut</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Event</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Toolbars, menu items, and keyboard shortcuts

To add a menu item, keyboard shortcut, or toolbar icon that calls a macro, use the **Customize** dialog, which contains pages to configure menus, keyboard shortcuts, toolbars, and events. To open this dialog, go to **Tools > Customize**. Use of the **Menus, Toolbars, Context Menus, and Keyboard** tabs are covered in Chapter 14, Customizing LibreOffice.

### Events

Whenever something happens in LibreOffice, it is called an event. For example, opening a document, changing status of modified, 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 chapter, 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 document is modified, but you make a mistake so the event is not properly handled. One possible result is that your event handler will force you to kill LibreOffice.
1) Go to **Tools > Customize** to open the **Customize** dialog and select the **Events** tab (Figure 369). The events in the Customize dialog are related to the entire application and specific documents.

2) In the **Save In** drop-down, select **LibreOffice**, or a specific document from the 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 (similar to Figure 360 on page 398 but with different action buttons).

4) Select the desired macro and click **OK** to assign the macro to the event. The **Events** tab will show that the event has been assigned to a macro.

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.

### Using 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, for example:

- 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.
• 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: https://extensions.libreoffice.org/ and some documentation at https://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 so far in this chapter were 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 using more advanced programming logic.

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 5: Append the text “Hello” to the current document

```vba
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
```

Overview of BeanShell, JavaScript, and Python macros

Many programmers may not be familiar with LibreOffice Basic, so LibreOffice supports macros written in three other languages that may be more familiar: BeanShell, JavaScript, and Python.

Macros are organized in the same way for all four scripting languages. The LibreOffice Macros container holds all the macros that are supplied in the LibreOffice installation. The My Macros library container holds your macros that are available to any of your LibreOffice documents. Each document can also contain your macros that are not available to any other document.

When you use the recording facility, the macros are created in LibreOffice Basic. To use the other available scripting languages, you must write the code yourself.
When you select to run a macro using **Tools > Macros > Run Macro**, LibreOffice displays the *Macro Selector* dialog. This dialog enables selection and running of any available macro, coded in any of the available languages (Figure 370).

When you edit a macro using **Tools > Macros > Edit Macros**, LibreOffice displays the LibreOffice Basic IDE. This dialog enables selection and editing of any available LibreOffice Basic macro, but not macros in other languages.

The component model used in LibreOffice is known as Universal Network Objects or UNO. LibreOffice macros in any scripting language use a UNO runtime application programming interface (API). The XSCRIPTCONTEXT interface is provided to macro scripts in all four languages, which provides some means of access to the various interfaces which they might need to perform an action on a document.

**Tip**

If you want to learn more about the LibreOffice API as well as UNO objects, refer to the official API documentation at [https://api.libreoffice.org/](https://api.libreoffice.org/)

**BeanShell macros**

BeanShell is a Java-like scripting language that was first released in 1999.

When you select **Tools > Macros > Organize Macros > BeanShell**, LibreOffice displays the BeanShell Macros dialog (Figure 371).
Click the **Edit** button on the BeanShell Macros dialog to access the BeanShell Debug Window (Figure 372).

*Figure 371: BeanShell Macros dialog*

*Figure 372: BeanShell Debug Window*
Listing 6 is an example of a BeanShell macro that inserts the text “Hello World from BeanShell” in cell A1 of the active Calc spreadsheet.

Listing 6: Sample BeanShell macro

```java
import com.sun.star.uno.UnoRuntime;
import com.sun.star.sheet.XSpreadsheetView;
import com.sun.star.text.XText;
model = XSCRIPTCONTEXT.getDocument();
controller = model.getCurrentController();
view = UnoRuntime.queryInterface(XSpreadsheetView.class, controller);
sheet = view.getActiveSheet();
cell = sheet.getCellByPosition(0, 0);
cellText = UnoRuntime.queryInterface(XText.class, cell);
textCursor = cellText.createTextCursor();
cellText.insertString(textCursor, "Hello World from BeanShell", true);
return 0;
```

**JavaScript macros**

JavaScript is a high-level scripting language that was first released in 1995.

When you select **Tools > Macros > Organize Macros > JavaScript**, LibreOffice displays the JavaScript Macros dialog (Figure 373).

![Figure 373: JavaScript Macros dialog](image)
Click the **Edit** button on the JavaScript Macros dialog to access the Rhino JavaScript Debugger (Figure 374). Detailed instructions for using this tool can be found on Mozilla's website at https://developer.mozilla.org/en-US/docs/Mozilla/Projects/Rhino/Debugger.

Listing 7 is an example of a JavaScript macro that inserts the text “Hello World from JavaScript” in cell A1 of the first sheet in a Calc spreadsheet.

**Listing 7: Sample JavaScript macro**

```java
importClass(Packages.com.sun.star.uno.UnoRuntime);
importClass(Packages.com.sun.star.sheet.XSpreadsheetDocument);
importClass(Packages.com.sun.star.container.XIndexAccess);
importClass(Packages.com.sun.star.table.XCellRange);
importClass(Packages.com.sun.star.table.XCell);

documentRef = XSCRIPTCONTEXT.getDocument();
```

Figure 374: Rhino JavaScript Debugger
spreadsheetInterface = UnoRuntime.queryInterface(XSpreadsheetDocument, documentRef);

allSheets = UnoRuntime.queryInterface(XIndexAccess, spreadsheetInterface.getSheets());

theSheet = allSheets.getByIndex(0);

Cells = UnoRuntime.queryInterface(XCellRange, theSheet);
cellA1 = Cells.getCellByPosition(0, 0);

theCell = UnoRuntime.queryInterface(XCell, cellA1);

theCell.setFormula("Hello World from JavaScript");

**Python macros**

Python is a high-level, general-purpose programming language that was first released in 1991. When you select **Tools > Macros > Organize Macros > Python**, LibreOffice displays the Python Macros dialog (Figure 375).

Facilities to edit and debug Python scripts are not currently integrated into the standard LibreOffice user interface. However, you can use any Python editor to create scripts and then copy these files into the Scripts folder in your home directory. For more information, refer to “Where are macros stored?” on page 407.

Listing 8 presents an example of a Python macro that writes the text “Hello World from Python” into cell A1 of the first sheet in a Calc spreadsheet.
Listing 8: Sample Python macro

```python
import uno

def HelloWorld():
    doc = XSCRIPTCONTEXT.getDocument()
    cell = doc.Sheets[0]['A1']
    cell.setString('Hello World from Python')
    return
```

**Tip**

The Alternative Python Script Organizer (APSO) extension makes it easier to edit and organize Python scripts, in particular when embedded in a document. Using APSO you can configure your preferred source code editor, start the integrated Python shell and debug Python scripts. Visit [https://gitlab.com/jmzambon/apso](https://gitlab.com/jmzambon/apso) to download APSO and learn more about how to use it.

**Tip**

To learn more about Python scripting in LibreOffice, you can refer to the Wiki "Macros/Python Basics", where you will find in-depth explanations and examples on how to get started with Python scripting. To learn more, visit [https://wiki.documentfoundation.org/Macros/Python_Basics](https://wiki.documentfoundation.org/Macros/Python_Basics).

**Finding more information**

Numerous resources are available that provide help with writing macros. Use Help > LibreOffice Help, or press the F1 key, 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 Basic from this list.

**Included material**

Many excellent macros are included with LibreOffice. Use Tools > Macros > Organize Macros > Basic to open the LibreOffice Basic Macros 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:

- [https://wiki.documentfoundation.org/Macros](https://wiki.documentfoundation.org/Macros)
- [https://ask.libreoffice.org/](https://ask.libreoffice.org/) (a Q&A site where volunteers answer questions related to LibreOffice)
- [https://wiki.documentfoundation.org/Documentation/Other_Documentation_and_Resources](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)
Printed and ebook materials

Andrew Pitonyak published a free online book “OpenOffice.org Macros Explained” that is a great reference to learn the Basic language used both in LibreOffice and OpenOffice. The PDF version can be downloaded at https://www.pitonyak.org/OOME_3_0.pdf.


Roberto Benitez's “Database Programming with OpenOffice.org Base & Basic” is also a great source to learn more about macro programming.
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Chapter 14
Customizing LibreOffice
Introduction

This chapter describes some common customizations that you may wish to carry out.

You can customize menus, toolbars, keyboard shortcuts, and the tabbed interface in LibreOffice, add new menus and toolbars, assign macros to events, and choose among several user interface variants.

Other customizations are made easy by extensions that you can install from the LibreOffice website or from other providers; see “Adding functionality with extensions” on page 429.

Note

Customized 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

You can add and rearrange menus on the Menu bar or context (right-click) menus; add, rearrange, and remove commands on menus, and make other changes.

To customize menus, choose Tools > Customize on the Menu bar. On the Customize dialog, go to the Menus tab (Figure 376) or the Context Menus tab.

Figure 376: The Menus tab of the Customize dialog
Modifying an existing menu

In this example, we are customizing a menu in the Calc component of LibreOffice.

1) In the **Scope** drop-down list in the upper right of the Customize dialog, choose whether to save this changed menu for Calc or for a selected document.

2) In the **Target** drop-down list, select the menu that you want to customize. The list includes all the submenus as well as the main menus. The commands on the selected menu are shown in the **Assigned Commands** list.

3) To add a command to the selected menu, click on a command in the **Available Commands** list and then click the large right arrow. You can narrow the search by using the **Search** box on the top left or selecting the **Category** in the drop-down list. Use the up and down arrows on the far right-hand side to move the command into the position where you want it in the list.

4) To remove a command from the selected menu, click on it in the **Assigned Commands** list and then click the large left arrow.

5) To insert a separator or submenu, select the item directly before where you want the inserted item to appear, and use the commands in the **Insert** drop-down list.

6) To rename a menu item, select it in the **Assigned Commands** list and choose **Rename** in the **Modify** drop-down list.

7) When you have finished making all your changes, click **OK** to save them.

Creating a new menu

On the **Menus** tab of the Customize dialog, click the button next to **Target** and select **Add** in the drop-down list (Figure 379), to display the New Menu dialog (Figure 380).

1) Type a name for the 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. Click **OK** to save and return to the Customize dialog.
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 above for modifying a menu.

**Creating an accelerator**

You can allocate a letter in a custom menu’s name to be used as a keyboard shortcut. That letter will become underlined. When you press Alt+that letter, the corresponding menu or command will be invoked. Existing submenus can also be edited to change the letter which is used to select them using the keyboard when the menu is open.

To create an accelerator:

1) Select a menu item from the Assigned Commands list on the Customize dialog.
2) Click the **Modify** button and select **Rename**.
3) Add a tilde (~) in front of the letter to use as an accelerator.
4) Click **OK** to save the change.

If for example you put a tilde before the “A” in a menu item Art, the “A” would now be underlined. Press Alt+A and either the Art submenu will open or the Art button will be actioned (as appropriate).

**Caution**

When assigning an accelerator, be careful not to use a letter that is already assigned to a menu or command associated with a menu item. The same letter-key combinations can be used for commands associated with different menu items but not for those associated with the same menu or menu item.
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 toolbars.

To get to the Toolbars tab of the Customize dialog (Figure 381), do any of the following:

- On the toolbar, right-click in the toolbar and choose Customize Toolbar.
- Choose View > Toolbars > Customize on the Menu bar.
- Choose Tools > Customize on the Menu bar and click on the Toolbars tab.

![Figure 381: The Toolbars tab of the Calc Customize dialog](image)

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Modifying existing toolbars

The procedures for creating and modifying a toolbar are similar to those for menus. In this example, we are customizing a toolbar in the Calc component of LibreOffice.

To modify an existing toolbar:

1) In the Scope drop-down list on the upper right of the Customize dialog, choose whether to save this changed toolbar for Calc or for a selected document.

2) In the Target drop-down list, select the toolbar that you want to customize. The current toolbar content is displayed in the Assigned Commands list.

3) Select a command in the Available Commands list on the left. You can narrow your search by using the Search box on the top left or choosing a category in the drop-down list just below.

4) Click on the large right arrow to add the selected command to the Assigned Commands list for the toolbar (on the right). Use the up and down arrows in the far right to position the command in the toolbar.

5) To remove a command from a toolbar, select it in the Assigned Commands list on the right and click the large left arrow.

6) To show or hide a command assigned to a toolbar, mark or clear the checkbox by its icon in the Assigned Commands list on the right.

7) To insert a separator, select the item directly before where you want the separator to appear, and use the command in the Insert drop-down list.

8) To rename a toolbar item, select it in the Assigned Commands list and choose Rename in the Modify drop-down list.

9) 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 on the Menu bar.

2) On the Toolbars page of the Customize dialog, click the button next to Target and select Add from the list, to display the Name dialog (Figure 382).

3) On the Name dialog, type the new toolbar's name and choose in the Save In drop-down list where to save this new toolbar: for the application (for example, Writer) or for a selected document.

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 above.

Figure 382: Naming a new toolbar
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 (Figure 383), scroll through the available icons, select one, and click **OK** to assign it to the command.

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. For best quality, custom icons should be 24 x 24 pixels in size; other sizes will be scaled automatically.

![Change Icon dialog](image)

**Figure 383: Change Icon dialog**

Customizing the Tabbed interface

By default, LibreOffice’s commands are grouped in cascading menus and in toolbars filled with icons. In addition, LibreOffice provides other user interface variants, displaying contextual groups of commands and contents. (See “User interface variants” on page 432.)

One of the variants is **Tabbed**. In this variant, the area at the top of the workspace is divided into tabs, where each tab displays a set of icons grouped by context. The context can change depending on the object selected in the document, for example a table or an image.

Use the checkboxes on the **Notebookbar** tab of the Customize dialog (Figure 384) to show and hide the individual options on the various tabs that are provided in the **Tabbed** user interface. This is the only variant that can be customized.

Use the **Reset** button to reset the **Tabbed** configuration to the default settings.
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, such as F1 for Help, 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 and then click the Keyboard tab (Figure 385).
2) To have the shortcut key assignment available in all components of LibreOffice, select LibreOffice in the upper right section of the dialog.
3) Next select the required function in the Category and Function lists.
4) Now select the desired shortcut keys in the Shortcut Keys list and click the Modify button.
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*, *F6*, and *F10 for Calc* on a Windows 10 installation, are not available for reassignment.

Figure 385: Customizing a keyboard shortcut

**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, or to create a standard keyboard configuration file to be distributed among many users. To save keyboard shortcuts to a file:

1) After making your keyboard shortcut assignments, click the **Save** button at the right side of the Customize dialog (Figure 385).
2) In the Save Keyboard Configuration dialog, 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 (the file extension is .cfg for Configuration).

3) 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 side 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 carefully; no confirmation dialog will be displayed.

**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 tab of the Customize dialog. For more information, see Chapter 13, Getting Started with Macros.

**Adding functionality with extensions**

An extension is a program that can be installed into LibreOffice to add new functionality and improve your productivity. Template sets, spelling dictionaries, clipart galleries, macros, and dialog libraries can be packaged as LibreOffice extensions.

Several extensions are bundled with LibreOffice and are installed with the program. These can only be removed by changing the installation options. Others can be downloaded from various websites. The official extension repository is located at https://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**

To install an extension that is listed in the repository, follow these steps:

1) In LibreOffice, select Tools > Extension Manager on the Menu bar. In the Extension Manager dialog (Figure 386), click the Get more extensions online link.

2) A browser window will open. Find the extension you want and download it to your computer.

3) After the extension is downloaded and saved, return to the Extension Manager dialog and click Add. Find and select the extension you want to install and click Open. The extension begins installing. You may be asked to accept a license agreement.

4) When the installation is complete, the extension is listed in the Extension Manager dialog.

To install an extension that is not listed in the repository, download the extension, then continue with step 3 above.
Updating extensions
Click the Check for Updates button on the Extension Manager dialog to check for updates to installed extensions.

Removing and disabling extensions
To remove (uninstall) an extension that you installed, select the extension in the main window of the Extension Manager dialog and click the Remove button.

To disable an extension without removing (uninstalling) it, select the extension in the Extension Manager dialog and click the Disable button, which then changes to Enable.

![Extension Manager dialog]

**Figure 386: Extension Manager dialog**

**Tip**
Extensions can be installed from some other places in LibreOffice, such as the Gallery on the Sidebar, the Templates dialog, the Language Settings > Writing Aids page of the Tools > Options dialog and the Icon Style section in the View page of the Tools > Options dialog. In each of these places you will find a small button leading to a filtered view of the items in the Extensions dialog.

**Note**
In some cases, the Remove and Disable buttons may be unavailable, for example when you have selected one of the extensions that was bundled with your LibreOffice installation.
Adding custom colors

To add custom colors to a color palette, for example to exactly match a corporate color scheme, follow this procedure:

1) Insert any drawing object, such as a square, into any document.
2) Right-click on the object and choose Area in the context menu.
3) Go to the Color tab (Figure 387). In the Palette drop-down list in the Colors area, choose which palette you wish to add the new color to. Under New, define the new color using RGB or Hex notation, or click the Pick button to select the color on the Pick a Color dialog (Figure 388).
4) Click Add in the lower left corner, enter a name for the new color in the pop-up dialog, and click OK to save.
5) Delete the drawing object from the document, if it is not needed.

Figure 387: Defining a new color
Adding fonts

LibreOffice supports PostScript (.pfb), TrueType (.ttf), and OpenType (.otf) font file formats. Other font formats exist, and may be supported by your operating system, but these formats may be limited in selection and quality.

If you have administration privileges, you can install additional fonts through your operating system; they will then be available for use by all components of LibreOffice.

Finding free-licensed fonts

In addition to proprietary fonts from sources like Adobe, hundreds of free-licensed fonts are available. You can use, share, and edit free-licensed fonts as you please. Most are available at no cost. Many are clones or near-variations of classic fonts, but some are original fonts.

Many Linux distributions include a few free-licensed fonts in their package repositories. Other places where you can find free-licensed fonts include The League of Movable Type (theleagueofmoveabletype.com), Open Font Library (fontlibrary.org).

User interface variants

By default, commands in LibreOffice are grouped in cascading menus and in toolbars filled with icons—the standard user interface described in Chapter 1. These menus and toolbars are described in the chapters that discuss the related tasks and functions.

In addition, LibreOffice Writer, Calc, Draw, and Impress provide other user interface variants, displaying contextual groups of commands and contents. This section describes these user interface variants and provides a quick reference to the location of the tools and functions when using each of the variants.
Selecting the user interface

When you set up LibreOffice, you can choose one of the user interfaces, and you can switch between them and the standard interface at any time.

1) Choose View > User Interface on the Menu bar.
2) On the Select Your Preferred User Interface dialog (Figure 389), choose one of the variants on the left. An example of the variant is shown in the Preview box on the right, along with a short description.
3) Choose the relevant button to apply your selection to all components of LibreOffice, or only to the open component. The window changes to match your selection.
4) Click Close to close the dialog.

![Figure 389: Selecting a user interface](image)

If you have activated experimental features (Tools > Options > Advanced), several more choices appear on the left-hand side. These choices are not described here.

Standard interfaces

Three of the user interface choices in Figure 389 are described in Chapter 1, Introducing LibreOffice.

**Standard toolbar**

Classic mode with two visible toolbars: standard and formatting. The sidebar shows only its tabs.

**Single toolbar**

Only one toolbar with frequently used features. The sidebar shows only its Hide button.

**Sidebar**

The sidebar is fully opened and only one toolbar (Formatting) is showing.

The elements on each of these standards user interfaces can be modified using the View menu on the Menu bar.
Tabbed interface

The Tabbed interface (Figure 390) provides a familiar interface for users coming from proprietary office suites such as Microsoft Office. It includes a Menu bar, an Icon bar, a Tab bar, icons for the active tab, one or more tab-specific menus, and a Quick Menu. On Windows and Linux, the Menu bar can be hidden or displayed by clicking on the Menu Bar icon in the Icon bar (Figure 392).

![Tabbed Interface with Menu bar hidden](image)

Figure 390: Tabbed Interface with Menu bar hidden

The Tabbed interface includes fixed tabs and additional tabs that vary depending on the item selected (for example, a table or image). Each tab displays a set of icons grouped by context. The context can change depending on the location of the cursor or the item selected. Each tab also includes one or more tab-specific drop-down menus at the right-hand end. The Quick Menu is the same for all tabs.

The Tabbed interface can be customized using the Notebookbar tab of the Customize dialog to show and hide the individual icons on the various tabs. See “Customizing the Tabbed interface” on page 426 for more information.

If the icons on a tab do not fit into the width of the LibreOffice window, >> appears at the end of the row. Click it to display the other commands (Figure 391).

![Displaying more commands on a tab](image)

Figure 391: Displaying more commands on a tab

Icon bar

The icon bar (Figure 392) is located at the top left of the tabs. The sixth icon varies between components; the illustration shows it for Writer.

![Tabs – Icon bar](image)

Figure 392: Tabs – Icon bar

1 Menu bar – Show / Hide the menu bar.
2 Open (Ctrl+O) – Open a file browser.
3 Save (Ctrl+S) – Save the open file.
4 Undo (Ctrl+Z) – Undo the last action.
5 Redo (Ctrl+Y) – Redo the last undone action.
6 Print (Ctrl+P) – Open the Print dialog.
**Quick menu**

At the right-hand end of the tab bar is a Quick menu (Figure 393) containing some commonly used commands and links. Some of the Quick menu items have submenus, indicated by arrows on the right.

![Quick menu](image)

**Figure 393: Quick menu**

**Example: File tab in Writer**

The **File** tab (Figure 394) includes commands to create new documents; open, save, print, and close documents; manage templates; export to PDF and EPUB; display document properties; add a digital signature; and sign an existing PDF.

The illustration shows the left and right ends of the tabs separately so they are large enough to more easily see the commands.

![Tabbed Interface – File tab in Writer](image)

**Figure 394: Tabbed Interface – File tab in Writer**

The File tab has two menus (Figure 395): **File** and **Help**. The **File** menu contains the same commands as the icons on the tab. The **Help** menu provides links to a variety of resources.
**Tabbed Compact interface**

The Tabbed Compact interface has the same tabs as the Tabbed interface, but the commands on each tab are arranged in a single row of icons, many with drop-down menus of choices.

**Groupedbar Compact interface**

The Groupedbar Compact interface (Figure 397) is divided into groups that contain commands organized as sets of icons and menus.
The Groupedbar menu (Figure 398) on the right-hand end of this interface provides a subset of commands, including a convenient way to change the user interface.

![Groupedbar menu in Writer](image)

**Figure 398: Groupedbar menu in Writer**

**Contextual Single interface**

The Contextual Single interface displays a standard Menu bar and a single toolbar with context-dependent content.
Appendix A
Keyboard Shortcuts

Using LibreOffice without a mouse
### 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 multiple components of LibreOffice. For shortcuts specific to Writer, Calc, Impress, Draw, Math, or Base, read the relevant component guide or search the application Help.

To assist the user with identification of useful keyboard shortcuts, their existence is indicated by text on menu items and in the tooltips of toolbar icons. For example, in Writer:

- The menu item **File > Open** includes text indicating that **Ctrl+O** is an equivalent shortcut.
- The **Underline** icon in the Formatting toolbar has a tooltip indicating that **Ctrl+U** is an equivalent shortcut.
- The **Paste** item in the right-click context menu includes text indicating that **Ctrl+V** is an equivalent shortcut (providing that **Tools > Options > LibreOffice > View > Visibility > Shortcuts** is not set to **Hide**).

LibreOffice provides further information about the available shortcuts in the list presented on the **Keyboard** tab of the **Tools > Customize** dialog.

### Warning

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, Customizing LibreOffice, in this book) 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 except for the Windows platform, 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 https://wiki.documentfoundation.org/Accessibility

### Tip for Macintosh users

Some keystrokes are different on macOS 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.

<table>
<thead>
<tr>
<th>Windows or Linux</th>
<th>macOS equivalent</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right-click</td>
<td>Control+click and/or right-click depending on computer setup</td>
<td>Open a context menu</td>
</tr>
<tr>
<td><strong>Ctrl</strong> (Control)</td>
<td>⌘ (Command)</td>
<td>Used with other keys</td>
</tr>
<tr>
<td><strong>F11</strong></td>
<td>⌘ +T</td>
<td>Open the Sidebar Styles deck</td>
</tr>
</tbody>
</table>
Getting help

<table>
<thead>
<tr>
<th>Shortcut Keys</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>F1</strong></td>
<td>Opens the LibreOffice Help contents in your default browser. If the local Help package is not installed, LibreOffice opens the online Help located at <a href="https://help.libreoffice.org">https://help.libreoffice.org</a>.</td>
</tr>
<tr>
<td><strong>Shift+F1</strong></td>
<td>Turns the cursor into the What's This? question mark. Shows the tip for an item underneath the cursor. The shortcut does not work with the online help.</td>
</tr>
<tr>
<td><strong>Shift+F2</strong></td>
<td>Shows tip for a selected item. The shortcut does not work with the online help.</td>
</tr>
</tbody>
</table>

General keyboard shortcuts

Opening menus and menu items

<table>
<thead>
<tr>
<th>Shortcut Keys</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Alt+&lt;?&gt;</strong></td>
<td>Opens a menu where &lt;?&gt; 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. There may be instances where an item in a menu has no underlined character. This will have to be clicked directly.</td>
</tr>
<tr>
<td><strong>Esc</strong></td>
<td>Closes an open menu.</td>
</tr>
</tbody>
</table>
| **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 focus through objects in the opposite direction. |
| **Ctrl+F6**   | Switches the focus to the document. |
| **F10 or Alt**| Switches focus to the Menu bar and back. |

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.
Note

If the first object in the toolbar has an editable text field, like the Load URL or the Paragraph Style, the Home, End, left and right arrow keys work on the text instead. In these cases you can use Tab and Shift+Tab to navigate to other objects.

Press Enter to action 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.

<table>
<thead>
<tr>
<th>Key</th>
<th>Function</th>
<th>Plus Ctrl key</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right, left arrow keys</td>
<td>Moves the cursor one character to the left or to the right.</td>
<td>Moves the cursor one word to the left or to the right.</td>
</tr>
<tr>
<td>Up, down arrow keys</td>
<td>Moves the cursor up or down one line.</td>
<td>Moves the cursor up or down one paragraph.</td>
</tr>
<tr>
<td>Home</td>
<td>Moves the cursor to the beginning of the current line.</td>
<td>Moves the cursor to the beginning of the document.</td>
</tr>
<tr>
<td>End</td>
<td>Moves the cursor to the end of the current line.</td>
<td>Moves the cursor to the end of the document.</td>
</tr>
<tr>
<td>PgUp</td>
<td>Scrolls up one page.</td>
<td>Moves the cursor to the header.</td>
</tr>
<tr>
<td>PgDn</td>
<td>Scroll down one page.</td>
<td>Moves the cursor to the footer.</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Shortcut Keys</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter</td>
<td>Activates selected button. In most cases where no button is selected, Enter is equivalent to clicking OK.</td>
</tr>
<tr>
<td>Esc</td>
<td>Closes dialog without saving any changes made while it was open. In most cases, Esc is equivalent to clicking Cancel. When an open dropdown list is selected, Esc closes the list.</td>
</tr>
<tr>
<td>Spacebar</td>
<td>Checks an empty checkbox. Clears a checked checkbox.</td>
</tr>
<tr>
<td>Up, down arrow keys</td>
<td>Moves focus up and down a list. Increases or decreases value of a variable. Moves focus vertically within a section of dialog.</td>
</tr>
</tbody>
</table>
### Shortcut Keys

<table>
<thead>
<tr>
<th>Shortcut Keys</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left, right arrow keys</td>
<td>Moves focus horizontally within a section of a dialog.</td>
</tr>
<tr>
<td>Tab</td>
<td>Advances focus to the next section or element of a dialog.</td>
</tr>
<tr>
<td>Shift+Tab</td>
<td>Returns focus to the previous section or element in a dialog.</td>
</tr>
<tr>
<td>Alt+Down Arrow</td>
<td>Shows items in a drop-down list.</td>
</tr>
</tbody>
</table>

### Controlling macros

<table>
<thead>
<tr>
<th>Shortcut Keys</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ctrl+* (multiplication sign:</td>
<td>Runs a macro field. (See Chapter 13 for more about macros.)</td>
</tr>
<tr>
<td>on number pad only)</td>
<td></td>
</tr>
<tr>
<td>Shift+Ctrl+Q</td>
<td>Stops a running macro.</td>
</tr>
</tbody>
</table>

### Managing documents

<table>
<thead>
<tr>
<th>Shortcut Keys</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ctrl+F4 or Alt+F4</td>
<td>Closes the current document. Closes LibreOffice when the last open document is closed.</td>
</tr>
<tr>
<td>Ctrl+O</td>
<td>Launches the Open dialog to open a document.</td>
</tr>
<tr>
<td>Ctrl+S</td>
<td>Saves the current document. If you are working on a previously unsaved file, the shortcut launches the Save As dialog.</td>
</tr>
<tr>
<td>Ctrl+N</td>
<td>Creates a new document.</td>
</tr>
<tr>
<td>Shift+Ctrl+N</td>
<td>Opens the Templates dialog.</td>
</tr>
<tr>
<td>Ctrl+P</td>
<td>Opens the Print dialog to print the document.</td>
</tr>
<tr>
<td>Ctrl+Q</td>
<td>Closes the application.</td>
</tr>
<tr>
<td>Del</td>
<td>In the Save and Open dialogs, deletes the selected files or folders. Items can be retrieved from the Recycle Bin (Trash), if your operating system has one.</td>
</tr>
<tr>
<td>Shift+Del</td>
<td>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.</td>
</tr>
<tr>
<td>Backspace</td>
<td>In the Save and Open dialogs, shows contents of the current folder’s parent folder.</td>
</tr>
</tbody>
</table>

### Editing

<table>
<thead>
<tr>
<th>Shortcut Keys</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ctrl+X, Shift+Del</td>
<td>Cuts selected items.</td>
</tr>
<tr>
<td>Ctrl+C, Ctrl+Ins</td>
<td>Copies selected items to the clipboard.</td>
</tr>
<tr>
<td>Ctrl+V, Shift+Ins</td>
<td>Pastes copied or cut items from the clipboard.</td>
</tr>
<tr>
<td>Ctrl+Shift+V</td>
<td>Opens the Paste Special dialog.</td>
</tr>
<tr>
<td>Ctrl+Alt+Shift+V</td>
<td>Pastes unformatted text.</td>
</tr>
<tr>
<td>Ctrl+A</td>
<td>Selects all.</td>
</tr>
<tr>
<td>Ctrl+Z</td>
<td>Undoes last action.</td>
</tr>
<tr>
<td>Ctrl+Y</td>
<td>Redoes last action.</td>
</tr>
<tr>
<td>Ctrl+Shift+Y</td>
<td>Repeats last command.</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th><strong>Shortcut Keys</strong></th>
<th><strong>Result</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ctrl+F</td>
<td>Opens the Find toolbar.</td>
</tr>
<tr>
<td>Ctrl+H</td>
<td>Opens the Find &amp; Replace dialog.</td>
</tr>
<tr>
<td>Ctrl+Shift+F</td>
<td>Searches for the last entered search term.</td>
</tr>
<tr>
<td>Ctrl+Shift+I</td>
<td>Shows or hides the cursor in read-only text.</td>
</tr>
</tbody>
</table>

## Selecting rows and columns in a database table

These shortcuts apply after the database table has been opened by Ctrl+Shift+F4.

<table>
<thead>
<tr>
<th><strong>Shortcut keys</strong></th>
<th><strong>Result</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Spacebar</td>
<td>Toggles row selection, except when the row is in edit mode.</td>
</tr>
<tr>
<td>Ctrl+Space bar</td>
<td>Toggles row selection.</td>
</tr>
<tr>
<td>Shift+Space bar</td>
<td>Selects the current column.</td>
</tr>
<tr>
<td>Ctrl+Page Up</td>
<td>Moves pointer to the first row.</td>
</tr>
<tr>
<td>Ctrl+Page Down</td>
<td>Moves pointer to the last row.</td>
</tr>
</tbody>
</table>

## Shortcut keys for drawing objects

<table>
<thead>
<tr>
<th><strong>Shortcut keys</strong></th>
<th><strong>Result</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Select the toolbar with F6. Use the Down Arrow and Right Arrow to select the desired toolbar icon and press Ctrl+Enter.</td>
<td>Inserts a drawing object.</td>
</tr>
<tr>
<td>Select the document with Ctrl+F6 and press Tab.</td>
<td>Selects a drawing object.</td>
</tr>
<tr>
<td>Tab</td>
<td>Selects the next drawing object.</td>
</tr>
<tr>
<td>Shift+Tab</td>
<td>Selects the previous drawing object.</td>
</tr>
<tr>
<td>Ctrl+Home</td>
<td>Selects the first drawing object.</td>
</tr>
<tr>
<td>Ctrl+End</td>
<td>Selects the last drawing object.</td>
</tr>
<tr>
<td>Esc</td>
<td>Ends drawing object selection.</td>
</tr>
<tr>
<td>Esc (in Handle Selection Mode)</td>
<td>Exits Handle Selection Mode and returns to Object Selection Mode.</td>
</tr>
<tr>
<td>Up/Down/Left/Right Arrow</td>
<td>Move the selected point (the snap-to-grid functions are temporarily disabled, but end points still snap to each other).</td>
</tr>
<tr>
<td>Alt+Up/Down/Left/Right Arrow</td>
<td>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 Point Selection mode for the selected drawing object.</td>
</tr>
<tr>
<td>Spacebar</td>
<td>Selects a point of a drawing object (in Point Selection mode) / Cancel selection. The selected point blinks once per second.</td>
</tr>
<tr>
<td>Shift+Spacebar</td>
<td>Selects an additional point in Point Selection mode.</td>
</tr>
<tr>
<td><strong>Shortcut keys</strong></td>
<td><strong>Result</strong></td>
</tr>
<tr>
<td>----------------------------------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Ctrl+Tab</td>
<td>Selects the next point of the drawing object (Point Selection mode).</td>
</tr>
<tr>
<td></td>
<td>In Rotation mode, the center of rotation can also be selected.</td>
</tr>
<tr>
<td>Ctrl+Shift+Tab</td>
<td>Selects the previous point of the drawing object (Point Selection mode).</td>
</tr>
<tr>
<td>Ctrl+Enter</td>
<td>A new drawing object with default size is placed in the center of the current view.</td>
</tr>
<tr>
<td>Ctrl+Enter at the Selection icon</td>
<td>Activates the first drawing object in the document.</td>
</tr>
<tr>
<td>Esc</td>
<td>Leaves the Point Selection mode. The drawing object is selected afterwards.</td>
</tr>
<tr>
<td></td>
<td>Edits a point of a drawing object (Point Edit mode).</td>
</tr>
<tr>
<td>Any text or numerical key</td>
<td>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.</td>
</tr>
<tr>
<td>Alt key while creating or scaling a graphic object</td>
<td>The position of the object's center is fixed.</td>
</tr>
<tr>
<td>Shift key while creating or scaling a graphic object</td>
<td>The ratio of the object's width to height is fixed.</td>
</tr>
</tbody>
</table>

### 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.
Getting Started Guide

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 announced 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 and version 7.0 was released in August 2020.

In February 2012, The Document Foundation was incorporated in Berlin as a German Stiftung. You can read more about The Document Foundation at: 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 GNOME Foundation, Google, Red Hat, and Collabora. 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 both the Mozilla Public License (MPL) 2.0 (www.libreoffice.org/about-us/licenses/) and the GNU Lesser General Public License (LGPL) 3.0+ (www.gnu.org/licenses/lgpl-3.0.en.html).

What is open source?

The four essential rights of open-source software are embodied within the Free Software Foundation’s family of the GNU 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): www.opensource.org
- Free Software Foundation (FSF): www.fsf.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 (www.oasis-open.org), an independent, international standards group. OpenDocument version 1.2 was adopted by the International Standards Organization and named ISO/IEC 26300:2015 standard. In December 2019, ODF 1.3 was approved as a committee specification.

Unlike other file formats, ODF (ISO/IEC 26300:2015) 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 7.1 saves documents in ODF 1.3 Extended by default. LibreOffice can also open and save in earlier versions of the ODF standard, as well as 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_fileFormats

**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)
- *.odc for charts
- *.odf for formulas (scientific formulas and 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).

**Opening text documents**

In addition to OpenDocument formats (.odt, .ott, .oth, .odm, and .fodt), Writer can open 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)
- Microsoft Works (.wps)
- Abiword Document (.abw, .zabw)
- MacWrite Document (.mw, .mcw)
- Text CSV (.csv and .txt)
- DocBook (.xml)
- T602 Document (.602, .txt)
- 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 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 97-2003 (.xml)
- Microsoft Excel 2007-365 (.xlsx, .xlsm, .xltx, .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 (.sdc and .vor)
- OpenOffice.org 1.x (.sxc and .stc)
- dBASE (.dbf)
- SYLK (.slk)
- Unified Office Format spreadsheet (.uos, .uof)
- HTML Document (.htm and .html files, including Web page queries)
- 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 following presentation formats:

- Microsoft PowerPoint 97/2000/XP (.ppt and .pot)
- Microsoft PowerPoint 2007-365 (.pptx, .pptm, .potx, .potm)
- StarDraw and StarImpress (.sda, *.sdd, *.sdp, and *.vor)
- OpenOffice.org 1.x (.sxi and .sti)
- 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) and Portable Document Format (.pdf), Draw can open 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)
- OpenOffice.org 1.x (.sxd and .std)

| Format | BMP | JPEG, JPG | PCX | RAS | TGA | DXF | MET | JPG | PCX | RAS | TGA | EMF | PBM | PNG | SDD | WMF | EPS | PCD | PPM | SVG | XBM | GIF | PCT | PSD | SVM | XPM |
|--------|-----|------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|        |     |            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
Opening formula files

In addition to OpenDocument Formula (.odf) files, Math can open the formats 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 MathType to LibreOffice Math or reverse is checked in Tools > Options > Load/Save > Microsoft Office, the object will be automatically converted to a 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 reopened 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 the recipient to modify, the preferred option is to convert the document to PDF. LibreOffice provides a straightforward way to convert documents to PDF. See Chapter 10, Printing, Exporting, Emailing, and Signing, in this guide.

Saving text documents

In addition to OpenDocument formats (.odt, .ott, and .fodt), Writer can save in these formats:

- Office Open XML Text (.docx)
- Microsoft Word 97–2003 (.doc)
- Rich Text Format (.rtf)
- Text Encoded (.txt)
- HTML Document (.html and .htm)

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, .ots, and .fods), Calc can save in these formats:

- Office Open XML Spreadsheet (.xlsx)
- Microsoft Excel 97–2003 (.xls and .xlt)
- Microsoft Excel 2003 XML (.xml)
- HTML Document (Calc) (.html and .htm)

Data Interchange Format (.dif)
- dBase (.dbf)
- SYLK (.slk)
- Text CSV (.csv and .txt)
- Unified Office Format spreadsheet (.uos)
Saving presentations
In addition to OpenDocument formats (.odp, .otp, .fodp, and .odg), Impress can save in these formats:

- Microsoft PowerPoint 2007–365 (.pptx, .potm)
- Microsoft PowerPoint 2007–365 AutoPlay (.ppsx)
- Microsoft PowerPoint 97–2003 (.ppt)
- Microsoft PowerPoint 97–2003 Template (.pot)
- Microsoft PowerPoint 97–2003 AutoPlay (.pps)
- Office Open XML Presentation (.pptx, .potm, .ppsx)
- Unified Office Format presentation (.uop)

Impress can also export to any of the graphics formats listed for Draw.

Saving drawings
Draw can save in the OpenDocument Drawing formats (.odg, .otg, and .fodg).

Draw can export to any of the following graphics formats: BMP, EMF, EPS, GIF, JPEG, PNG, SVG, TIFF, and WMF.

Note
Adobe [Macromedia] Flash (.swf) export has been removed from LibreOffice 7. Flash Player reached end-of-life in December 2020.

Saving Writer/Web documents
Writer/Web can save to 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 what you want under File > Save As, look under File > Export (not available in Math) for additional types.

Two popular formats that LibreOffice can export to are PDF (Writer, Calc, Impress, and Draw) and EPUB (Writer only). See Chapter 10, Printing, Exporting, Emailing, and Signing Documents, for more information about exporting to those formats.

LibreOffice can also export files to HTML and XHTML. In addition, Draw and Impress can export to 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 or Save button as appropriate.
Getting Started Guide

Introduction to LibreOffice

About this book:
If you have never used LibreOffice before, or you want an introduction to all of its components, 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
- Clip art galleries
- Macros
- Printing

About the authors:
This book was written by volunteers from the LibreOffice community.

A PDF version of this book can be downloaded free from: https://documentation.libreoffice.org

About LibreOffice:
LibreOffice is the free, libre, and open source personal productivity suite from The Document Foundation.
It runs on Windows, macOS, and GNU/Linux. Support and documentation are 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 the free Community release of LibreOffice from: https://libreoffice.org/download/

For commercial use:
You are encouraged to work with a certified LibreOffice professional for your business needs, from deployment or conversion from other office suites, staff training, or custom development needs.

For information on professional support services, https://www.libreoffice.org/get-help/professional-support/