LibreOffice
Community

LibreOffice Documentation Team

Draw Guide

24.8

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Please direct any comments or suggestions about this document to the Documentation Team Forum at https://community.documentfoundation.org/c/documentation/loguides/ (registration is required) or send an email to: loguides@community.documentfoundation.org.

Note

Everything sent to a forum, including email addresses and any other information, is publicly archived and cannot be deleted. Emails sent to the forum are moderated.

Publication date and software version

Published November 2024. Based on LibreOffice 24.8 Community.
Other versions of LibreOffice may differ in appearance and functionality.

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Draw Guide 24.8

Preface

Drawing vector graphics in LibreOffice

Who is this user guide for?

This user guide is for users who want to acquire knowledge on LibreOffice Draw and is new to drawing or graphics software, but may be familiar with another office software suite, will find this user guide very useful.

LibreOffice is an open-source office productivity software suite containing capabilities for word processing, spreadsheets, presentations, graphics, databases, and formula editing. Draw is the vector graphics drawing module and a wide variety of graphical images can be easily and quickly created. Drawings created in Draw can be exported in several file formats, for example, PDF, HTML, and numerous graphic formats.

What is in this user guide?

This user guide introduces the main features of Draw module. It is a vector graphics drawing tool, but can also be used to edit raster graphics (pixels), for example photographs. A few examples of drawing functions are as follows:

Layer management, snap functions and grid-point system
Dimensions and measurement display
Connectors for making organization charts

Draw also includes 3D functions for creation of 3D drawings (with texture and lighting effects), drawing and page-style integration, and creation of Bézier curves.

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. The native file format used is Open Document Format (ODF). However, LibreOffice can also open and save documents in many other formats, including those used by versions of Microsoft Office. For more information, see the *Getting Started Guide*.

Minimum requirements for using LibreOffice

LibreOffice 24.8 requires one of the following operating systems:

Linux x64 (deb) and Linux x64 (rpm)
Mac OS X (Aarch64/Apple Silicon)
macOS x86_64 (10.14 Mojave or higher)
Windows x86_64 (Windows 7 or newer required)

For a detailed list of requirements and operating systems supported, see the LibreOffice website, https://www.libreoffice.org/get-help/system-requirements/.

How to get LibreOffice

Computers and laptops

Versions of LibreOffice for Windows, Linux, and macOS are freely available and can be downloaded from the LibreOffice website at https://www.libreoffice.org/download.

For Linux users LibreOffice is included free with many of the latest distributions, for example Ubuntu. Linux versions of LibreOffice may differ in a few features from the descriptions used in this user guide.

LibreOffice is also available for Windows in the Microsoft Store and for macOS in the Apple App Store at a low and attractive price. These versions are free software (as in open source), but the small charge covers the cost of placing LibreOffice in the app stores. The profits from this sale of LibreOffice are invested to support the development of the LibreOffice project.

Tablets, iPads and Chromebooks

To use LibreOffice on tablets, iPads, or Chromebooks, a LibreOffice based app has to be downloaded and installed. The app is called **Collabora Office**, which uses the same technology as LibreOffice and is very similar in operation to LibreOffice. For more information, go to the Collabora Office website at https://www.collaboraoffice.com.

Installing LibreOffice

Information on installing LibreOffice on the various supported operating systems can be found at this web page: https://www.libreoffice.org/get-help/install-howto/. If LibreOffice is acquired through official app stores, follow the installation instructions provided by the store.

Setting up and customizing LibreOffice

After installation, change the default settings (options) in LibreOffice to suit working requirements and preferences. Go to **Tools > Options** on the Menu bar (mac OS **LibreOffice > Preferences**) and change the settings as required.

Settings are described in LibreOffice Help and the *Getting Started Guide*. These two sources provide information on how to customize menus, toolbars, and keyboard shortcuts in Draw, add new menus and toolbars, and assign macros to events.

Tip

Some settings are intended for power users and programmers. If it is difficult to understand what an option does, LibreOffice recommended leaving an option on its default setting unless instructions in this user guide recommend changing the setting.

Extensions and add-ons

Functionality can be added to LibreOffice with extensions and add-ons. Several extensions are installed with the program and other extensions from the official extensions repository, https://extensions.libreoffice.org/ or various other sources. See the *Getting Started Guide* for more information on installing extensions and add-ons.

Where to get more help

This user guide, the Help system, and user support systems assume that users are familiar with computers and basic functions such as starting a program, opening and saving files.

Help system

LibreOffice comes with an extensive Help system and is used as the 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. Offline Help is installed with the MacOS version of LibreOffice.

To display the LibreOffice Help, press *F1* or go to **Help > LibreOffice Help** on the Menu bar. If the offline help is not installed on a computer, but connected to the Internet, a dialog opens giving the option to **Read Help Online**. Select this option and the default web browser opens at the LibreOffice online help pages in the LibreOffice website.

The Help menu includes links to other LibreOffice information and support facilities. The Help menu also includes links to other LibreOffice information and support resources.

What's This?

For quick tips when a toolbar is visible, place the cursor over a tool icon to see a small tooltip box with a brief explanation of the tool function. For a more detailed explanation, select **Help > What's This?** Also *Extended Tips* can be activated by going to **Tools > Options > LibreOffice > General > Help** (macOS **LibreOffice > Preferences > LibreOffice > General > Help**) on the Menu bar and selecting the option *Extended Tips*. Extended tips provide a brief description about tools and commands. To display an extended tip, use the keyboard *Shift+F1*, then move the cursor onto a tool or command.

User Guides

Opens the default browser at the Documentation page of the LibreOffice website https://documentation.libreoffice.org/en/english-documentation/. This web page gives access to the LibreOffice User Guides and other useful information that can be opened in the default browser. Also, the LibreOffice User Guides are available in PDF format as a free download, or to buy as printed copies.

Show Tip of the Day

Opens a small window with a random tip on how to use LibreOffice.

Search Commands

Opens a window where typing a few letters, or the name of a Menu bar command, for example, quickly finds where the command is located. Clicking on a command in the resulting list may open a relevant dialog or have other effects.

Get Help Online

Opens the default browser at the Ask LibreOffice forum of questions and answers from the LibreOffice community, https://ask.libreoffice.org/en/questions/.

Send Feedback

Opens the default browser at the Feedback page of the LibreOffice website https://www.libreoffice.org/get-help/feedback/. From this web page, bugs can be reported, new features suggested and communicated with other users in the LibreOffice community.

Restart in Safe Mode

Opens a dialog window giving options to restart LibreOffice and reset the software to its default settings. Restarting in safe mode also provides an opportunity to restore LibreOffice from a backup.

Get Involved

Opens the default browser at the Get Involved page of the LibreOffice website, https://www.libreoffice.org/community/get-involved/. Choose a topic of interest to help improve the program.

Donate to LibreOffice

Opens the default browser at the Donation page of the LibreOffice website, https://donate.libreoffice.org/ providing an opportunity 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 version of the software. The dialog provides an opportunity to download and install any updates to LibreOffice.

About LibreOffice

Opens a dialog and displays information about the version of LibreOffice and the operating system being used. This information is often requested if the community is asked for help or assistance with the software (in macOS, this option is found under **LibreOffice** on the Menu bar}.

Other free online support

The LibreOffice community not only develops software, but provides free, volunteer-based support. See Table 1 and the web page https://www.libreoffice.org/get-help/. For comprehensive online support from the community, look at mailing lists and the Ask LibreOffice website, https://ask.libreoffice.org/en/questions/. Other user websites also offer free tips and tutorials.

Table 1: Free support for LibreOffice users

Free LibreOffice support	
FAQs	Answers to frequently asked questions https://wiki.documentfoundation.org/Faq.
Mailing lists	Free community support is provided by a network of experienced users https://www.libreoffice.org/get-help/mailing-lists/.
Questions & Answers and Knowledge Base	Free community assistance is provided in a Question & Answer formatted web service. Search similar topics or open a new one in https://ask.libreoffice.org/en/questions. The service is available in several other languages; just replace /en/ with de, es, fr, ja, ko, nl, pt, tr, and many others in the web address above.
Native language support	The LibreOffice website in various languages https://www.libreoffice.org/community/nlc/. Mailing lists for native languages https://wiki.documentfoundation.org/Local_Mailing_Lists. Information about social networking https://wiki.documentfoundation.org/Website/Web_Sites_services.
Accessibility options	Information about available accessibility options. https://www.libreoffice.org/get-help/accessibility/.
OpenOffice Forum	Another forum that provides support for LibreOffice, among other open source office suites https://forum.openoffice.org/en/forum/.

Paid support and training

Support and training is available through service contracts from a vendor or consulting firm specializing in LibreOffice. For information about certified professional support, see The Document Foundation website: https://www.documentfoundation.org/gethelp/support/.

For schools, educational and research institutions, and large organizations, see https://www.libreoffice.org/download/libreoffice-in-business/.

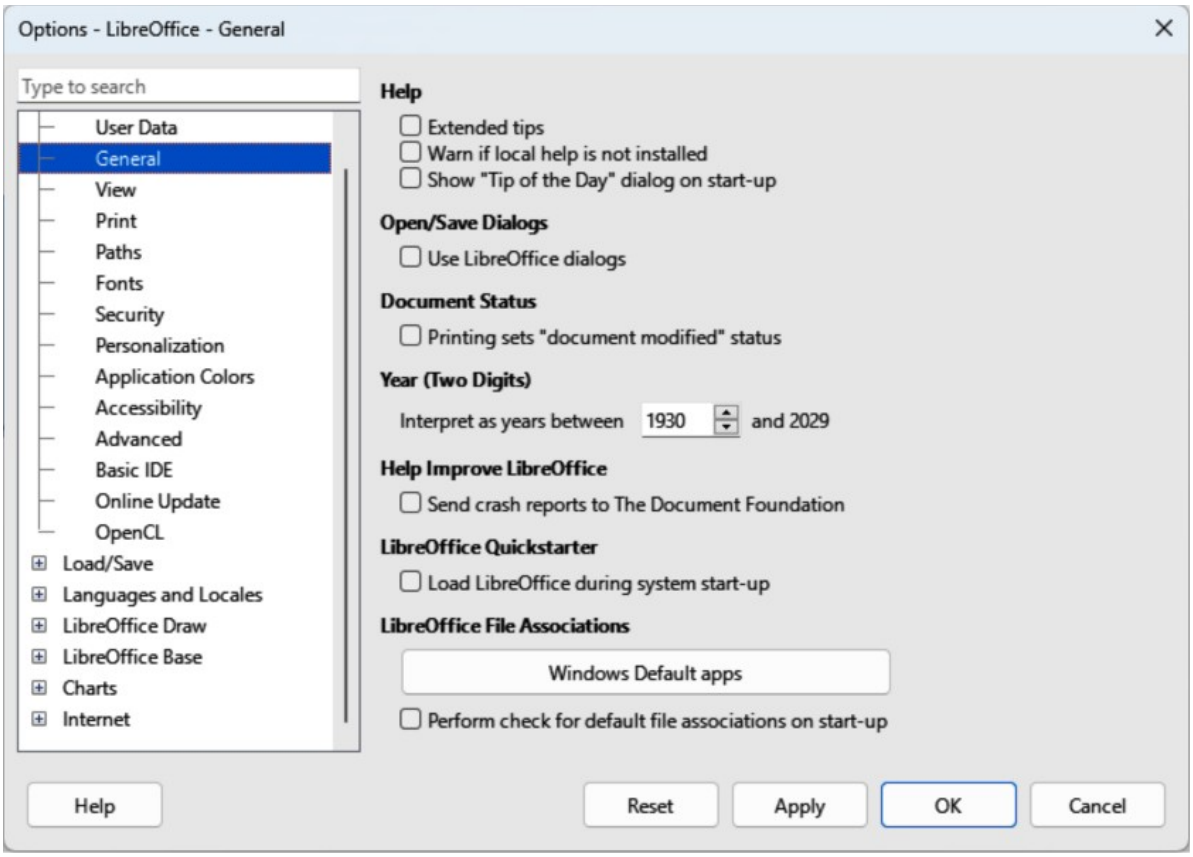

Figure 1: Options LibreOffice dialog — General page

What you see may be different

Illustrations

LibreOffice runs on Windows, Linux, and macOS operating systems. Each operating system has several versions and can be customized by users (fonts, colors, themes, window managers). The illustrations in this user guide were taken from a variety of computers and operating systems. Therefore, some illustrations will not look exactly the same as displayed on a computer monitor.

Also, some of the dialogs may differ because of the settings selected in LibreOffice. Either use dialogs from the computer system (default) or dialogs provided by LibreOffice. To change to using LibreOffice dialogs:

1) Go to **Tools > Options > LibreOffice > General** (macOS **LibreOffice > Preferences > LibreOffice > General**) on the Menu bar to open the dialog page for general options (Figure 1).
2) Select the option *Use LibreOffice dialogs* in **Open/Save dialogs** to display the LibreOffice dialogs on a computer display.
3) Click **OK** to save the settings and close the dialog.

Icons

The LibreOffice community has created icons for several icon sets, for example Breeze, Colibre, and Sifr. LibreOffice users can select a preferred set of fonts to use. The icons used to illustrate tools available in LibreOffice may differ from the ones used in this user guide. Icons in this user guide have been taken from a LibreOffice installation set to display the Colibre set of icons.

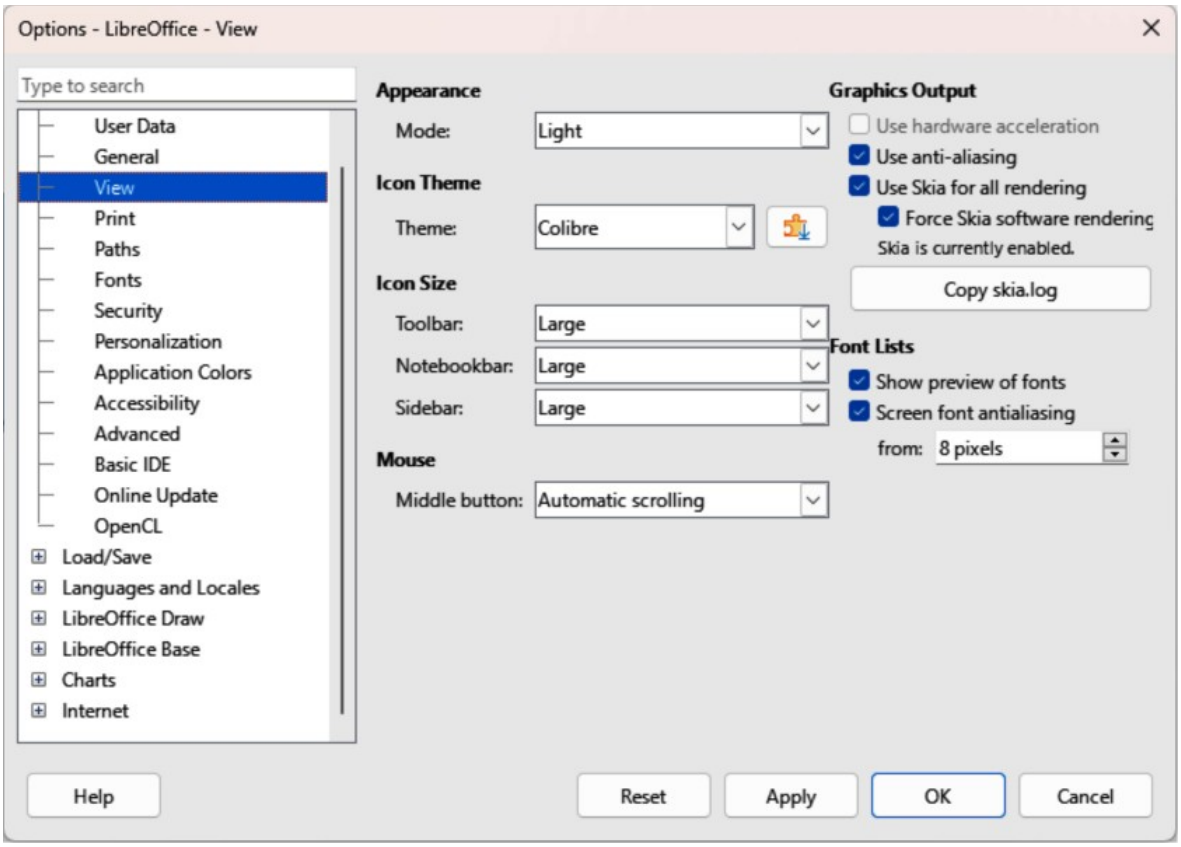

Figure 2: Options LibreOffice dialog — View page

Change the icon set used in a LibreOffice installation as follows:

1) On Linux and Windows operating systems, go to **Tools > Options > LibreOffice > View** (macOS **LibreOffice > Preferences > LibreOffice > View**) on the Menu bar to open the dialog page for view options (Figure 2).
2) In **Icon Theme**, select a font from the options available in the drop-down list.
3) In **Icon Size**, select the required size from the drop-down lists for *Toolbar*, *Notebookbar* and *Sidebar*.
4) Click **OK** to save the settings and close the dialog.

Notes

Some Linux operating systems, for example Ubuntu, include LibreOffice as part of the installation and may not include the required icon set. Icon sets can be downloaded from the software repository for the Linux operating system being used.

Some of the previously included icon sets are now available only as extensions. Go to 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.

Using LibreOffice on macOS

Some keystrokes and menu items are different on computers operating macOS from computers using Windows and Linux operating systems. Table 2 gives some common substitutions used in this user guide. For more information on keyboard shortcuts, see **LibreOffice Help** and Appendix A, Keyboard Shortcuts in this user guide.

Table 2: Example of macOS keyboard shortcuts

Windows or Linux	*macOS equivalent*	*Effect*
Tools > Options	**LibreOffice > Preferences**	Access to setup options
Right-click	*Ctrl*+click and/or right-click depending on computer setup	Opens a context menu
Ctrl or *Control*	⌘ and/or *Cmd* or *Command*, depending on keyboard	Used with other keys
Alt	⌥ and/or *Alt* or *Option* depending on keyboard	Used with other keys
F11	⌘+*T*	Open the Styles deck in the Sidebar

Who wrote this user guide?

This user guide was written by volunteers from the LibreOffice community. Profits from sales of the printed edition are used to benefit the community.

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.

Can LibreOffice be distributed to anyone?

Yes.

Can LibreOffice be sold?

Yes.

Can LibreOffice be used in a business?

Yes.

How many computers can LibreOffice be installed on?

As many as required.

Is LibreOffice available in different languages?

LibreOffice has been translated (localized for more than 80%, both UI and Help) into over 46 languages, so a required language is probably supported. Localization 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: https://www.libreoffice.org/.

How can LibreOffice be freely available?

LibreOffice is developed and maintained by volunteers and has the backing of several organizations. LibreOffice also relies upon donations from its users. To make a donation, go to the following web page: https://www.libreoffice.org/donate/.

Can the programming code from LibreOffice be used when developing a software application?

Yes, but follow the parameters set in the MPL and/or LGPL. Read the licenses: https://www.mozilla.org/MPL/2.0/.

Why is Java required to run LibreOffice and is it written in Java?

LibreOffice is not written in Java, but 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 an operating system can be found at: https://java.com/en/download/manual.jsp.

Note

If LibreOffice features requiring Java are to be used, it is important that the correct 32-bit or 64-bit edition matches the installed version of LibreOffice. If Java is not to be used, nearly all of the LibreOffice features can still be used.

How can users contribute to LibreOffice?

Users can help with the development and user support of LibreOffice in many ways, and there is no need to be a programmer. To start, check out this webpage: https://www.libreoffice.org/community/get-involved/. An interactive web page that guides users in contributing with their best skills available at https://whatcanidoforlibreoffice.org.

Can the PDF copy of this user guide be distributed, or printed and copies sold?

Yes, as long as requirements are met for one of the licenses in the copyright statement at the beginning of this user guide. There is no need to request special permission. LibreOffice requests that users share with the LibreOffice project some of the profits made from sales of user guides, in consideration of all the work that LibreOffice volunteers have put into producing user guides.

What is new in LibreOffice 24.8?

The LibreOffice 24.8 Release Notes are available at this link https://wiki.documentfoundation.org/ReleaseNotes/24.8. Also available at this link are the release notes for earlier versions of LibreOffice giving more information on the features included in LibreOffice.

Draw Guide 24.8

Chapter 1, Introducing Draw

Introduction

Draw is the vector graphics drawing module for LibreOffice for creating and updating a wide format of graphic images, including raster graphics (pixels). Vector graphics store and display images as assemblies of simple geometric elements such as lines, circles, and polygons, rather than a collection of pixels (points on the screen), allowing for easier storage and image scaling.

Draw is fully integrated into the LibreOffice suite simplifying the exachange of graphics between all LibreOffice modules. If an image is created in Draw, reusing it in a Writer document is relatively easy. For example, select and copy a drawing in Draw, then paste the copied image directly into a Writer document. Also, drawings can be worked on directly from within Writer or Impress, using a subset functions and tools from Draw.

The functionality of Draw is extensive, but is not designed to rival high-end graphics applications. However, Draw has more functionality than drawing tools that are available in the majority of other office productivity suites. A few examples of drawing functions are as follows:

Layer management
Magnetic grid-point system
Dimensions and measurement display
Connectors for making organization charts and other diagrams
3D functions for creating small three-dimensional drawings
Drawing and page-style integration
Bézier curves

This Draw user guide is not a course book to be worked through from beginning to end, but a reference work used as guidance when greating vector graphics. This user guide describes only the functions associated with Draw. Some concepts, such as file management, or the way the LibreOffice environment works, are mentioned briefly, but are covered in more detail in the *Getting Started Guide*.

Notes

When LibreOffice is installed on a computer, a menu entry for each module is added to the system menu. The exact name and location of these menu entries depends on the operating system and user interface being used.

The **New** icon displayed on the Standard toolbar depends on which LibreOffice module is opened when creating a new document, presentation, spreadsheet, or drawing.

Main window

Pages pane

In Draw, drawings can be split over several pages using multi-page drawings. These multi-page drawings are normally used in presentations. The **Pages** pane, on the left side of the main window, provides an overview pages created in a drawing. If the **Pages** pane is not visible, select **View > Page Pane** on the Menu bar. To make changes to the page order, drag and drop one or more pages displayed in the **Pages** pane.

Workspace

The large area in the center of the main window (Figure 3) is the Workspace where drawings are created. This drawing area can be surrounded with toolbars and information areas. The quantity and position of tools varies with the task being carried out, user preferences, and computer setup.

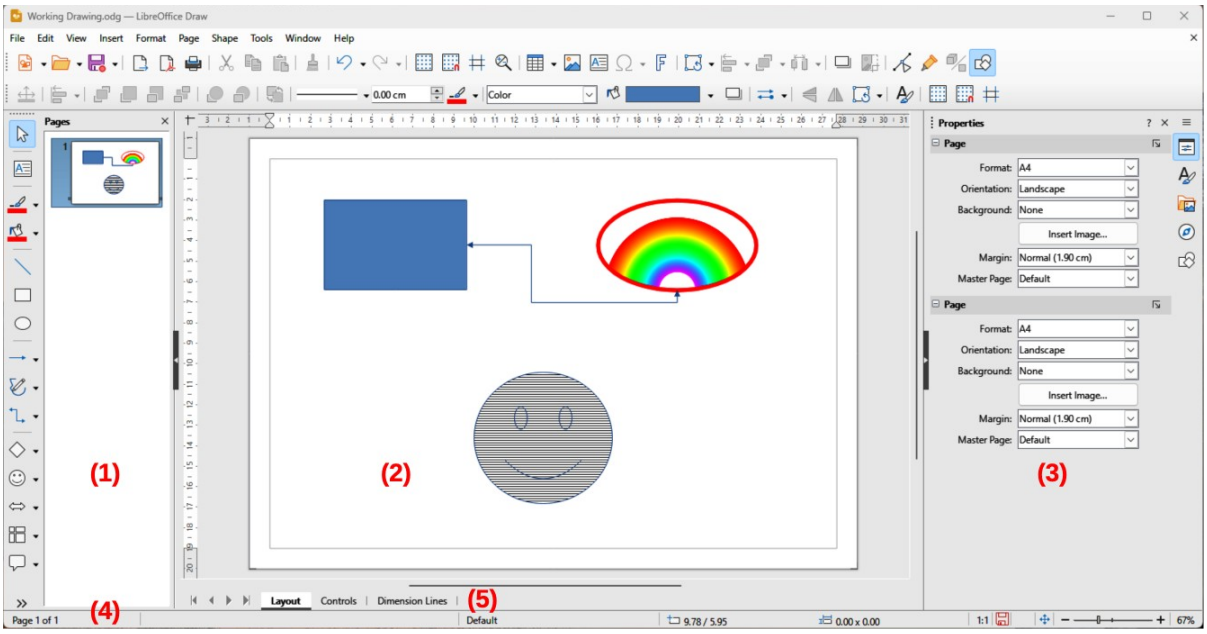

Figure 3: Draw main window

(1) Pages pane
(2) Workspace
(3) Sidebar
(4) Status Bar
(5) Layers Bar

The maximum size of a Draw drawing page is limited by computer setup and the page size that that can be set and used in a printer connected to the computer.

Sidebar

The Sidebar for Draw has five main decks and is similar to the Sidebar in other LibreOffice modules. To open a deck, click on its icon on the right of the Sidebar, or click on **Sidebar Settings** at the top of the Sidebar and select a deck from the drop-down list. If the Sidebar is not visible, select **View > Sidebar** on the Menu bar, or use the keyboard shortcut *Ctrl+F5* (macOS ⌘+*F5*).

Properties

Provides panels where properties of a selected object in a drawing are edited and updated. Available panels depend on the selected object, but are as follows:

Page **Character** **Paragraph** **Image**
Area **Line** **Effect** **Shadow**
Position and Size **Columns**.

Styles

Provides options to edit and apply available **Drawing Styles** to objects in a drawing. When a style is edited or modified, changes are automatically applied to all elements formatted using that style. In Draw, **Presentation Styles** are not available. New drawing styles can be added to a drawing.

Gallery

Objects available on the Gallery deck are inserted into a drawing either as a copy or as a link. New themes are added to the Gallery. See Chapter 11, Advanced Draw Techniques for more information on using the Gallery. The Gallery is divided into the following themes:

Arrows **BPMN** **Bullets**
Diagrams **Flow chart** **Icons**
Network **Shapes** **Sounds**.

Navigator

On the Navigator deck, pages and objects in a drawing are quickly selected. It is recommended to use meaningful names for drawing pages and objects providing easy identification and location when using the Navigator.

Shapes

Provides quick selection of some items available on the Drawing toolbar. These **Shapes** are available in the following subtoolbars:

Lines and Arrows	**Curves and Polygons**	**Connectors**
Basic Shapes	**Symbol Shapes**	**Block Arrows**
Flowchart	**Callouts**	**Stars and Banners**
3D Objects.		

Status bar

The **Status Bar** (Figure 4) is located at the bottom of the Workspace in all LibreOffice modules. To hide the **Status Bar**, if required, select **View** on the Menu bar and deselect **Status Bar** from the submenu.

Note

The measurement units displayed on the **Status Bar** are set by going to **Tools > Options > LibreOffice Draw > General** (macOS **LibreOffice > Preferences > LibreOffice > General**) on the Menu bar. These measurement units can be different to the measurement units set for the rulers displayed in the LibreOffice Draw main window.

Slide (drawing) number

Shows the drawing pane number that is selected.

Information area

Shows which action is being carried out, or object type selected.

Master drawing

Indicates the master drawing in use.

Cursor position/Selected 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 cursor.

– When an object is selected and being resized, the object size numbers show the object size (width and height).

– If an object is selected, the position numbers shows the X and Y coordinates of the upper-left corner and the object size number pair displays the object size. 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 object part or parts. See Chapter 3, Working with Objects and Object Points for more information.

– When an object is selected, clicking in either of these areas opens the Position and Size dialog. See Chapter 4, Changing Object Attributes for more information.

Document scaling factor

Indicates how the drawing appears on the display. The default scaling factor is 1:1. To change the scaling factor, right-click on the scaling factor and select a scaling factor from the context menu that opens.

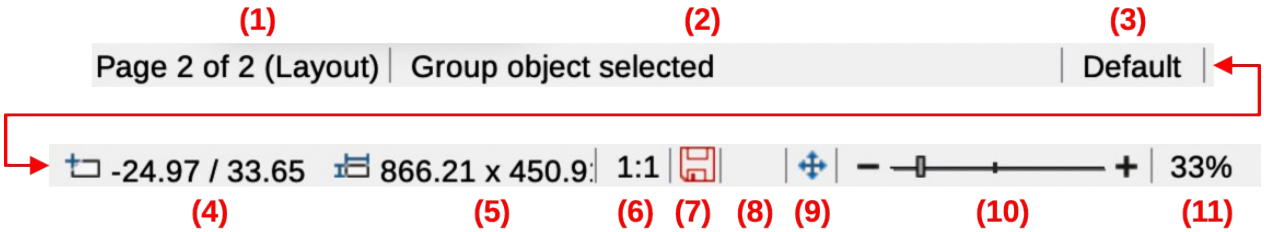

Figure 4: Draw Status Bar

(1) Slide (drawing) number
(2) Information area
(3) Master drawing
(4) Cursor position
(5) Selected object size
(6) Document scaling factor
(7) Unsaved changes
(8) Digital signature
(9) Fit drawing
(10) Zoom slider
(11) Zoom percentage

Unsaved changes

Indicates that the file needs saving. The icon displayed depends on the computer operating system and setup. Clicking on this icon opens the Save as dialog if the file is new and has not been saved before. If the file has been saved already, then clicking on this icon automatically saves the file after any changes have been made.

Digital signature

Indicates if the document is digitally signed. The icon only appears if the drawing has a digital signature certificate. After the file has been saved, double clicking on this icon opens the digital signatures dialog. See LibreOffice Help for more information on digital signature certificates.

Fit drawing

Resizes the drawing so that the whole drawing appears in the Workspace.

Zoom slider/Zoom percentage

Adjusts and indicates the Workspace zoom percentage displayed. Double clicking on zoom percentage opens the Zoom & View Layout dialog.

Layers bar

A layer is a workplace where drawing elements and objects can be inserted. By default, the Workspace consists of three layers, which are **Layout**, **Controls** and **Dimension Lines**. Tabs for the default layers appear at the bottom of the Workspace. Default layers cannot be deleted or renamed, but layers can be added as and when necessary.

Tabs for layers appear in the Layers bar at the bottom of the Workspace. Use the Layers bar to navigate between layers, add layers as required, or delete layers that have been created. For more information on layers, see Chapter 11, Advanced Draw Techniques.

Rulers

Rulers are positioned on the Workspace upper and left-hand sides. If the rulers are not visible, select **View > Rulers** in the Menu bar, or use the keyboard shortcut *Ctrl+Shift+R* (macOS ⌘+*Shift+R*). The rulers show the size of a selected object on the page using double lines (highlighted in Figure 5). Rulers are also used when using object handles and guide lines for positioning of objects.

Page margins in the drawing area are represented on the rulers. Change the margins directly on the rulers by dragging with the cursor. Margin areas are normally indicated by a grayed out area on the rulers, but this indication does depend on computer and operating system setup.

To change the ruler measurement units, right-click on a ruler and select the measurement unit from the drop down list, as shown in Figure 6 for the horizontal ruler. Measurement units for the horizontal and vertical rulers can be different measurement units.

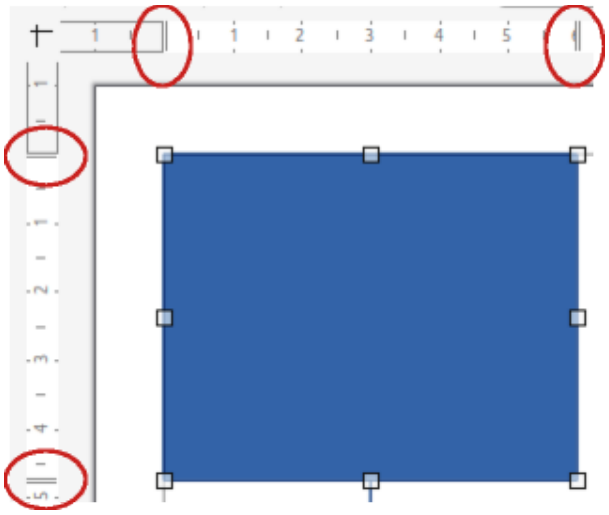

Figure 5: Example of Rulers showing object size

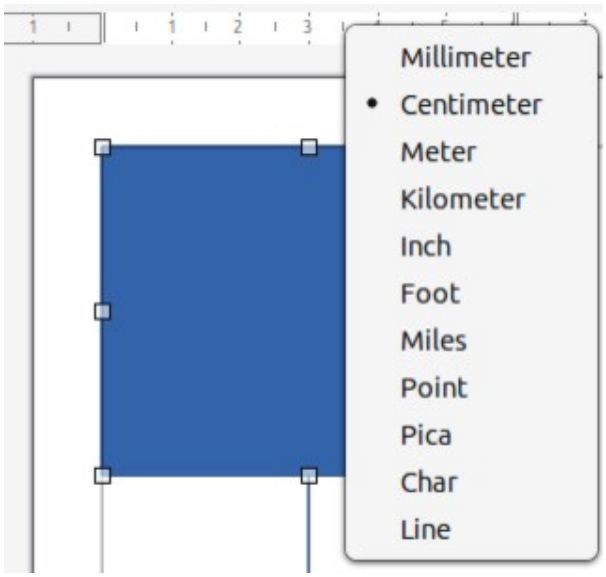

Figure 6: Example of Ruler measurement units

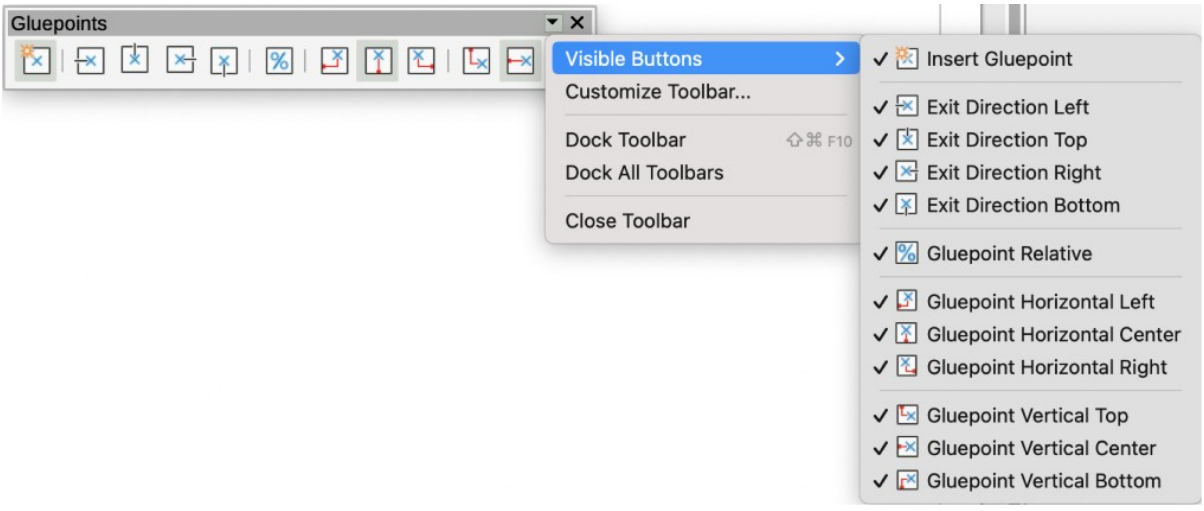

Figure 7: Example of visible toolbar icons on a toolbar

Toolbars

To display or hide the Draw toolbars, select **View > Toolbars** on the Menu bar and select the required toolbar from the submenu. For example, Standard and Drawing toolbars are shown by default, but Line and Filling, and Text Formatting toolbars are not shown.

Appearance of tool icons on toolbars depends on the computer operating system and the selection of icon style and size in **Tools > Options > LibreOffice > View** (macOS **LibreOffice > Preferences > LibreOffice > View**).

The tools available on a toolbar are indicated, either, by highlighting around the tool icon, or a check mark as shown by the example in Figure 7. For more information about working with toolbars, see Appendix B, Toolbars and the *Getting Started Guide*. The four main toolbars used in Draw are as follows:

Standard toolbar

The Standard toolbar (Figure 8) is similar for all LibreOffice components and is not described in detail in this chapter. By default, it is positioned at the top of the Draw main window.

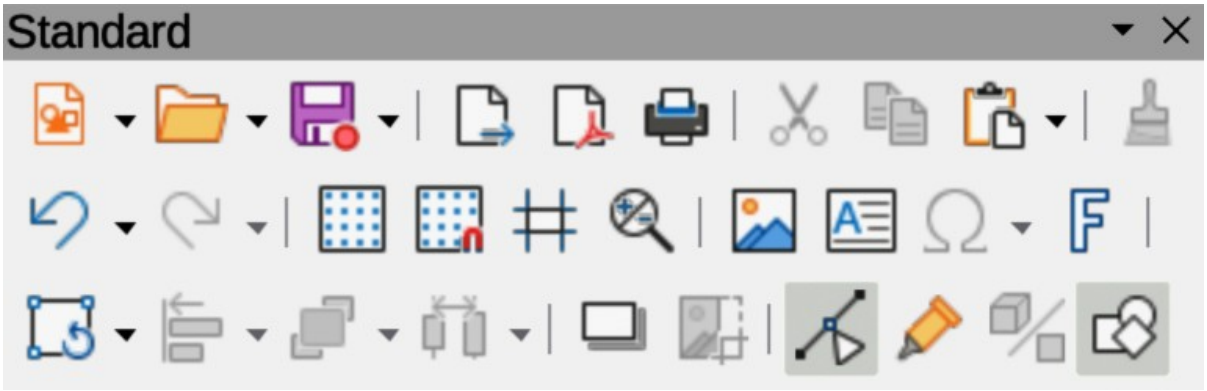

Figure 8: Standard toolbar

Figure 9: Drawing toolbar

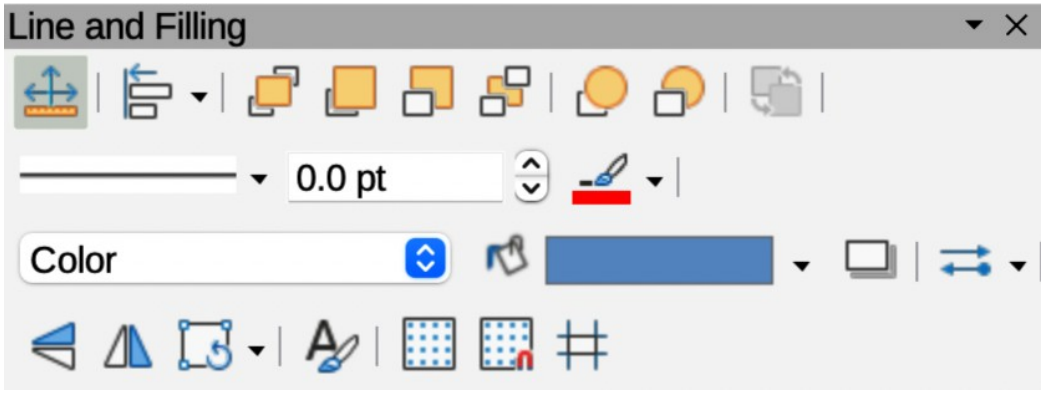

Figure 10: Line and Filling toolbar

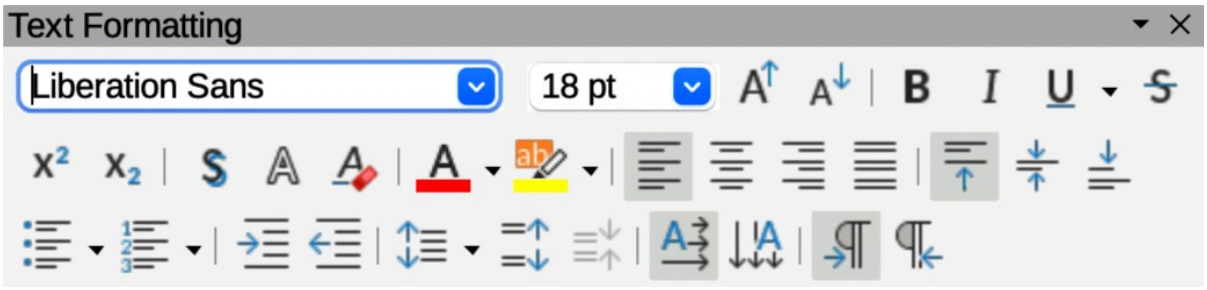

Figure 11: Text Formatting toolbar

Drawing toolbar

The Drawing toolbar (Figure 9) contains all the necessary functions for drawing various geometric and freehand shapes, and for organizing them in the drawing. By default, it is positioned on the left of the Draw main window. This toolbar is described in detail in Chapter 2, Drawing Basic Shapes.

Line and Filling toolbar

The Line and Filling toolbar (Figure 10) is used to modify the main properties of a drawing object. The tools and pull-down lists vary according to the type of object selected. For example, to change the style of a line, click on the up and down arrows for **Line Style** and select the required style.

The functions on the Line and Filling toolbar are used to change the color, style, and width of the line drawn, the fill color and style, and other properties of a selected object. If the selected object is a text frame, the Line and Filling toolbar is replaced by the Text Formatting toolbar. For more information, see Chapter, 4 Changing Object Attributes.

Text Formatting toolbar

The Text Formatting toolbar (Figure 11) is similar to the Formatting toolbar in Writer. It is only available when text, or a text object, has been selected in a drawing, replacing the Line and Filling toolbar. For more information, see Chapter, 4 Changing Object Attributes, and Chapter 9 Adding and Formatting Text.

Notes

For more information on the available tools that can be added to a toolbar, see Appendix B, Toolbars and the *Getting Started Guide*. When a tool is added to a toolbar, its position on the toolbar (from left to right) is the same as its listed position in the **Visible Buttons** context menu.

When a sub-toolbar is made into a floating toolbar, the tool on the existing toolbar remains in the toolbar and always shows the last tool used. This means that the tool icon on a screen may differ from the tool icon shown in this guide.

Make sure that all toolbars are docked into the required position in the LibreOffice window before using **Lock Toolbars** or **Lock Toolbar Position**. There is no selection indication on **Lock Toolbars** when used to lock and unlock the toolbars. The locking indication is only indicated by the dotted toolbar handles.

Adding and removing tools

The default set of tools on each toolbar can be added or removed using **Visible Buttons** as follows:

1) Either, right-click in an empty area on the toolbar, or click on the triangle ▼ in the toolbar title and select **Visible Buttons** from the context menu to a submenu of available tools.

2) Click on a tool name in the submenu to add or remove the tool.

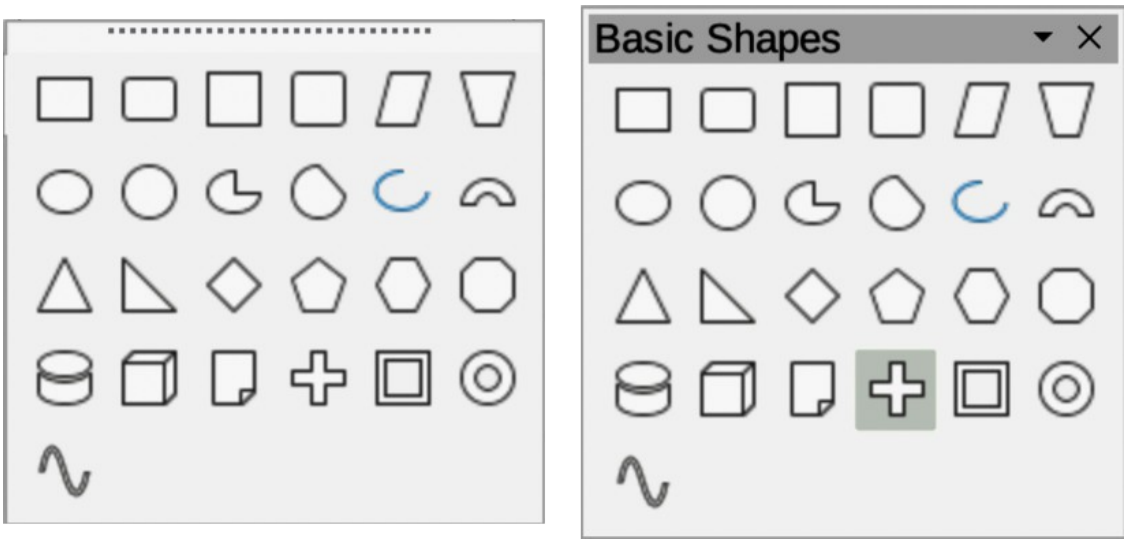

Figure 12: Example of available toolsets

Available toolsets

Some tools on a toolbar have a triangle ▼ on the right side of the tool icon indicating that the tool has additional tools available in a subtoolbar. Clicking on this triangle ▼ opens a palette, or subtoolbar, of available tools (Figure 12). This palette, or subtoolbar, can be turned into a floating toolbar as follows:

1) Click on the dotted line at the top of the toolset.
2) Drag the toolset across the screen to a convenient location, then release the cursor to create a floating toolbar.
3) To close a floating toolbar, click on the **X** on the right of the toolbar title.

Tip

If a tool is going to repeatedly used, double-click on the selected tool. The tool becomes active and remains active, allowing for repeated use. To exit from this repeat use mode, press the *Esc* key, or select another tool. Please note that this may not work for every tool on every toolbar.

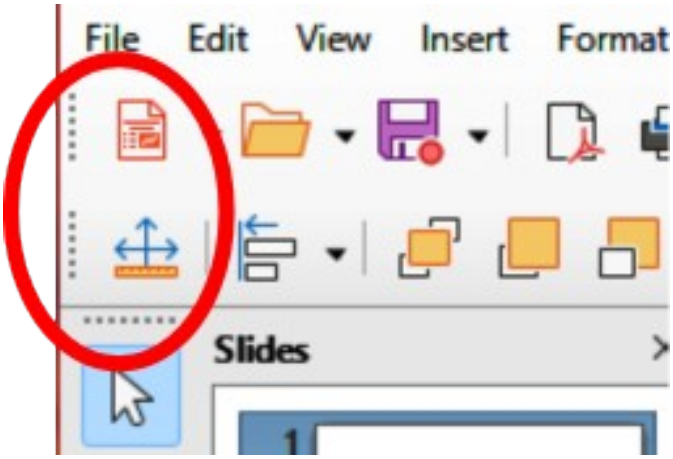

Figure 13: Example of toolbar handles

Unlocking and locking individual toolbars

By default, when Draw is opened, any docked toolbars are locked into position and have to be unlocked before becoming floating toolbars, or repositioned on the main window. The locking status of toolbars is indicated by dotted handles at the left end of horizontal toolbars (highlighted in Figure 13). For vertically positioned toolbars, these dotted handles are positioned at the toolbar top.

1) To unlock a toolbar, right-click in a blank area on the toolbar and select **Lock Toolbar Position** from the context menu. A toolbar handle appears at the end of the toolbar, indicating that the toolbar is unlocked and can be moved.
2) To lock a toolbar into position, dock the toolbar into position, then right-click in a blank area on the toolbar and select **Lock Toolbar Position** from the context menu. The toolbar handle disappears from the end of the toolbar.

Note

Before unlocking or locking individual toolbars, make sure that ALL toolbars are unlocked.

Unlocking and locking all toolbars

All toolbars available in LibreOffice can also be locked into position. This overrides the unlocking and locking of individual toolbars.

Unlocking toolbars

1) Make sure all open LibreOffice documents have been saved before unlocking or locking all toolbars.
2) To unlock all toolbars, go to **View > Toolbars** on the Menu bar and select **Lock Toolbars** from the context menu.
3) Select **Restart Now** from the warning message that opens and all toolbars can now be individually unlocked. Toolbar handles appear on individual toolbars that are NOT individually locked.

Locking all toolbars

1) To lock all toolbars, go to **View > Toolbars** on the Menu bar and select **Lock Toolbars** from the context menu.
2) Select **Restart Now** from the warning message that opens and all toolbars are now locked into position. Toolbar handles are no longer displayed on all toolbars.

Undocking toolbars

When Draw is opened, by default, the Standard and Drawing toolbars are already docked into their positions at the top of the main window. These toolbars and any other open toolbar can be undocked to create floating toolbars as follows:

1) Make sure the toolbar handle is displayed indicating that the toolbar is unlocked. If there is no toolbar handle displayed, see “Unlocking and locking individual toolbars” and "Unlocking and locking all toolbars" above for more information.
2) Move the cursor over the toolbar handle. The cursor changes shape, normally to a grabbing hand, depending on computer setup and operating system.
3) Click on the toolbar handle and drag the toolbar until it is undocked and becomes a floating toolbar. This floating toolbar capability is common to all LibreOffice modules.

Docking toolbars

To dock a floating toolbar, use one of the following methods:

- Press and hold the *Ctrl* key (macOS ⌘), then double click on the toolbar title. The toolbar moves into available space at the top of the Draw main window.
- Click in the toolbar title and drag the toolbar to the docked position required. This can be the top, bottom or one of the sides of the Draw main window.

Customizing toolbars

Draw toolbars can be customized by adding or removing commands to or from a toolbar. Also, customization allows creation of toolbars for specific purposes. Customizing toolbars is additional to using “Adding and removing tools” on page 24. For more information on adding customizing toolbars, see Appendix B, Toolbars and the *Getting Started Guide*.

Choosing and defining colors

Color palette

The Color Palette (Figure 14) is a standard set of colors to use for objects and text in a drawing.

1) Go to **View** on the Menu bar and select **Color Bar** to open the Color Palette. The Color Palette appears in the main window, next to the Sidebar.
2) Select an object or text.
3) Left click on the color required for the area fill, or text, and change the color of the object or text.
4) Right click on the color required for the object, or text box border, and change the border color.
5) Go to **View** on the Menu bar and deselect **Color Bar** to close the Color Palette.

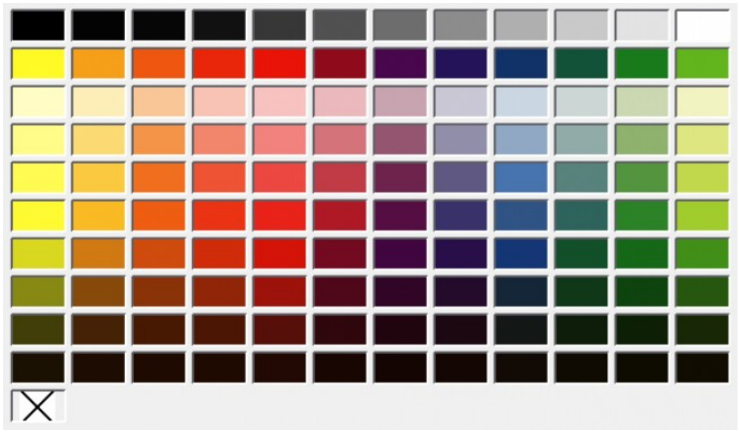

Figure 14: Color Bar (Color Palette)

Note

Selecting the **X** at the bottom left of the Color Palette corresponds to no color for an object, text, or border.

Specialized color palettes

In addition to the Color Palette, Draw has several specialized color palettes providing a greater selection of color for objects and text; for example chart-palettes, rectangles, arrows, and so on. After selecting an object, or text, in a drawing, use one of the following to access the specialized color palettes.

- Area or fill color — **Color** page in the Area dialog, **Fill Color** on the Drawing or Line and Filling toolbar, or *Fill* in the **Area** panel in the Properties deck on the Sidebar.
- Line color — **Line** page in the Line dialog, **Line Color** on the Drawing or Line and Filling toolbar, or *Color* in the **Line** panel in the Properties deck on the Sidebar.
- Text color — **Font Color** tool on the Text Formatting toolbar, or *Font Color* in the **Character** panel in the Properties deck on the Sidebar.

For more information on selecting a color and a color palette for an object, or text, see Chapter 4, Changing Object Attributes, Chapter 9, Adding and Formatting Text, and Chapter 11, Advanced Draw Techniques.

Custom colors

In Draw, custom colors can be created using the Color Picker dialog, CMYK values, or RGB values to match color schemes used; for example a company color scheme. For more detailed information on creating custom colors, color palettes, CMYK settings, RGB settings, and HSB settings, refer to Chapter 11, Advanced Draw Techniques.

Grid, snap guides, and helplines

The grid, snap guides, and helplines in Draw act as drawing aids when moving and positioning objects in a drawing. These drawing aids can be turned on or off using one of the following options:

- Line and Filling toolbar — click on **Display Grid**, or **Helplines While Moving** to turn the grid or helplines on or off.
- Options toolbar — click on **Display Grid**, **Display Snap Guides**, or **Helplines While Moving** to turn the grid, snap guides, or helplines on or off.
- Go to **View > Grid and Helplines** on the Menu bar and select, or deselect **Display Grid**, or **Helplines While Moving** on the submenu.
- Go to **View > Snap Guides** on the Menu bar and select, or deselect **Display Snap Guides** on the submenu.

The grid and snap guides are displayed only on the screen and are not shown on a printed drawing, or when the drawing is used in another LibreOffice module. The color, spacing and resolution of the grid points can be individually chosen for each axis. Draw also has several snap functions to position objects precisely in a drawing.

Helplines show the object position while moving and makes positioning an object much easier. If this function is activated, pairs of vertical and horizontal lines enclosing the object are shown while moving the object. These helplines extend to the drawing area edges.

For more information on the grid, snap guides, snap functions, and helplines, see Chapter 3, Working with Objects and Object Points.

Draw Guide 24.8

Chapter 2, Drawing Basic Shapes

Introduction

Draw is used for creating 2D and 3D objects and this chapter explains how to create 2D objects. For more information on 3D objects, see Chapter 7, Working with 3D Objects. All rectangles, lines, and shapes are called objects, which is a common notation in vector drawing software.

Frequently used drawing tools are found on the Drawing toolbar (Figure 15) which is normally docked on the left side of the main window. If the toolbar is not visible, go to **View > Toolbars** on the Menu bar and select **Drawing** from the available options. The Drawing toolbar can be unlocked and used as a floating toolbar. Toolbars can also be configured by adding, moving, hiding, or deleting tools. See Chapter 1, Introducing Draw for more information.

Drawing basic shapes

Basic shapes, including text, are treated as objects in Draw. The default set of tools available for drawing basic shapes on the Drawing toolbar are shown in Figure 15. To add more tools to the Drawing toolbar, see Appendix B, Toolbars and the *Getting Started Guide* for more information.

Some tool icons on the Drawing toolbar change shape according to the last tool used from the selection of available tools. Each tool that has a triangle ▼ next to the tool icon indicates that more tools are available. See “Drawing geometric shapes” on page 42 for information on the available shapes.

When a shape is created, an object selected for editing, or text added to the drawing, the information field in the **Status Bar** (Figure 16) changes to reflect the action taken or in progress. See Chapter 1, Introducing Draw for more information on the **Status Bar**.

Figure 15: Drawing toolbar

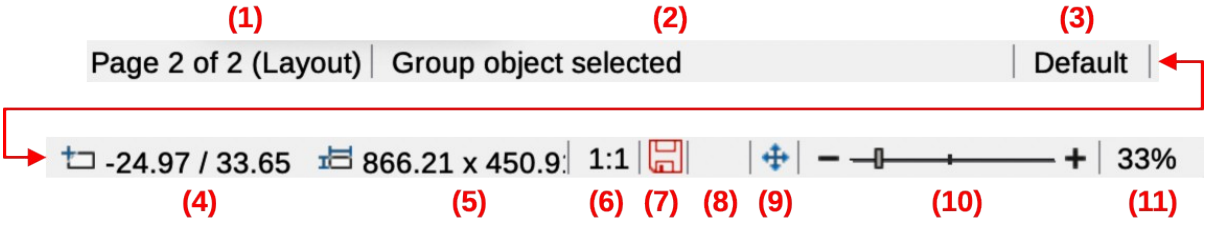

Figure 16: Draw Status Bar

(1) Slide (drawing) number
(2) Information area
(3) Master drawing
(4) Cursor position
(5) Selected object size
(6) Document scaling factor
(7) Unsaved changes
(8) Digital signature
(9) Fit drawing
(10) Zoom slider
(11) Zoom percentage

Note

When a basic shape is drawn, or selected for editing, the information area at the left side in the **Status Bar** changes to reflect the present action. For example *Line created*, *Text frame xxyy selected*, and so on.

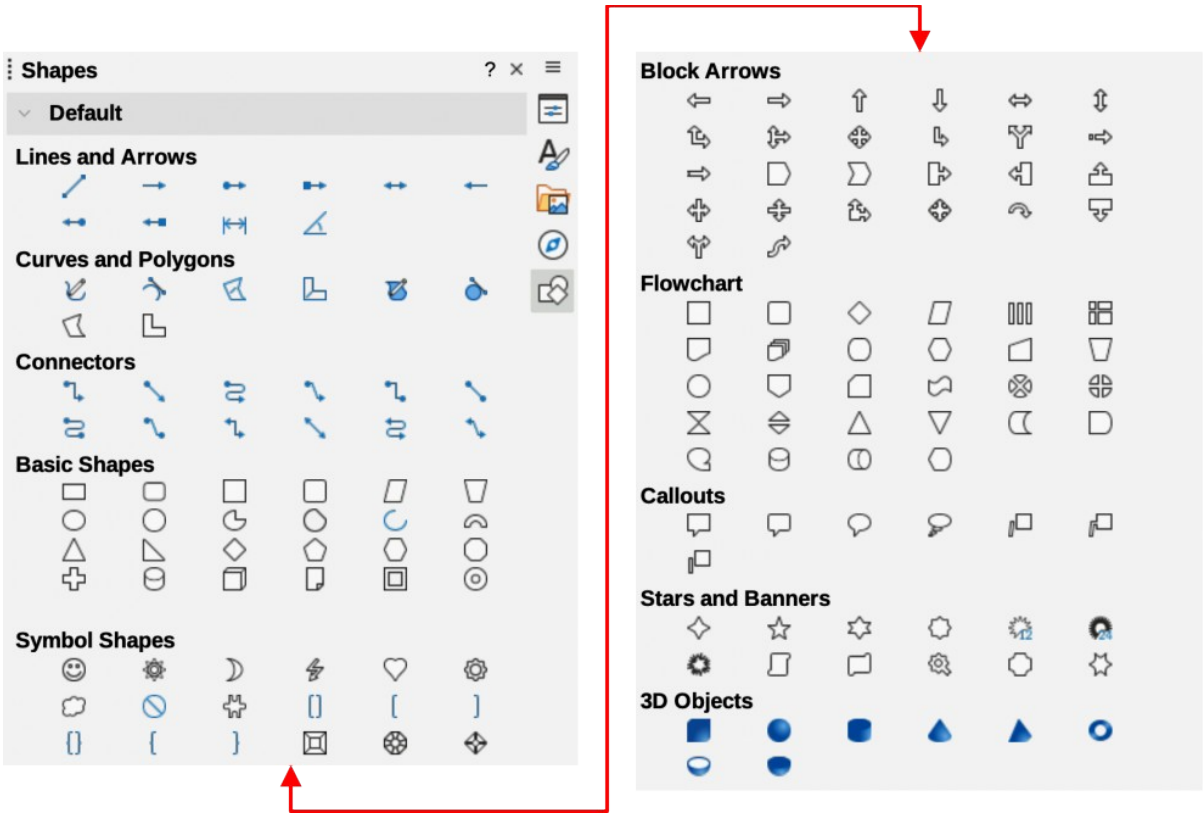

Figure 17: Shapes deck on Sidebar

Creating lines

A straight line is the simplest element or object to create using Draw.

1) Use one of the following options to draw a straight line:
   - Click **Insert Line** on the Drawing toolbar (Figure 15).
   - Click on the triangle ▼ next to **Lines and Arrows** on the Drawing toolbar (Figure 15) and select **Insert Line** from the options available.
   - Click **Insert Line** in the **Line and Arrows** panel of the Shapes deck on the Sidebar (Figure 17).
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 cursor when the required line length is reached and a straight line is created. A selection handle appears at each line end. The selection handle at the starting point of a line is slightly larger than the selection handle at the end point (highlighted in Figure 18).
4) To snap ends of a straight line to the nearest grid point, hold down the *Ctrl* (macOS ⌘) key while drawing a straight line. This is default behavior of the *Ctrl* (macOS ⌘) key.
5) To restrict the drawing angle of a straight line to multiples of 45 degrees (0, 45, 90, 135, and so on), hold down the *Shift* key while drawing a straight line. This is the default behavior of the *Shift* key.
6) To draw a straight line symmetrically outwards in both directions from the start point, hold down the *Alt* (macOS ⌥) key to draw a straight line from the line center.

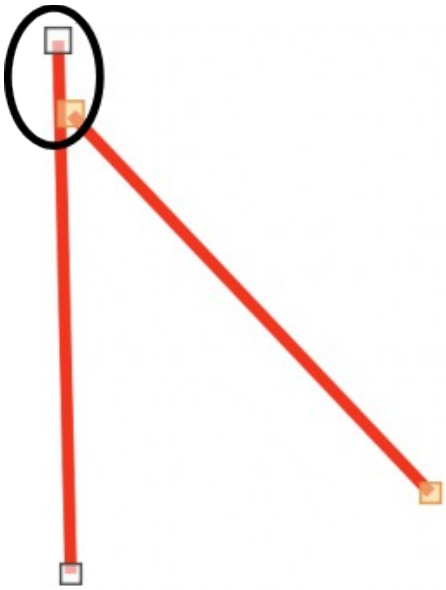

Figure 18: Example of line starting point (highlighted)

Notes

If the option **View > Snap Guides > Snap to Grid** on the Menu bar has been selected, holding down the *Ctrl* (macOS ⌘) key while drawing a straight line temporarily deactivates the **Snap to Grid** option.

If the option **When creating or moving objects** in the *Constrain Objects* section of **Tools > Options > LibreOffice Draw > Grid** (macOS **LibreOffice > Preferences > LibreOffice Draw > Grid**) has been selected, holding down the *Shift* key temporarily deactivates this restriction.

Draw classifies both lines and arrows as lines and are created in the same way as straight lines. Hovering the cursor over each tool in the Lines and Arrows subtoolbar (Figure 22 on page 34), or the **Line and Arrows** panel in the Shapes deck on the Sidebar, indicates what type of line or arrow each tool draws. The information field on the **Status Bar** shows them only as lines.

Formatting lines

When a line is drawn, it uses default attributes for line style, line color, line width and transparency. To change any of these attributes to the drawing requirements is as follows:

1) Select the straight line by clicking on it to display the selection handles.
2) To format line style, line color, line width, or transparency select an available option using one of the following methods:
   - Click on a line selection handle and drag it to increase or decrease the line length.
   - Go to **Format > Line** on the Menu bar to open the Line dialog (Figure 19).
   - Use **Line Style**, **Line Width**, and **Line Color** on the Line and Filling toolbar (Figure 20).
   - Right-click on the line and select **Line** from the submenu to open the Line dialog.
   - Open the **Line** panel in the Properties deck on the Sidebar (Figure 21).

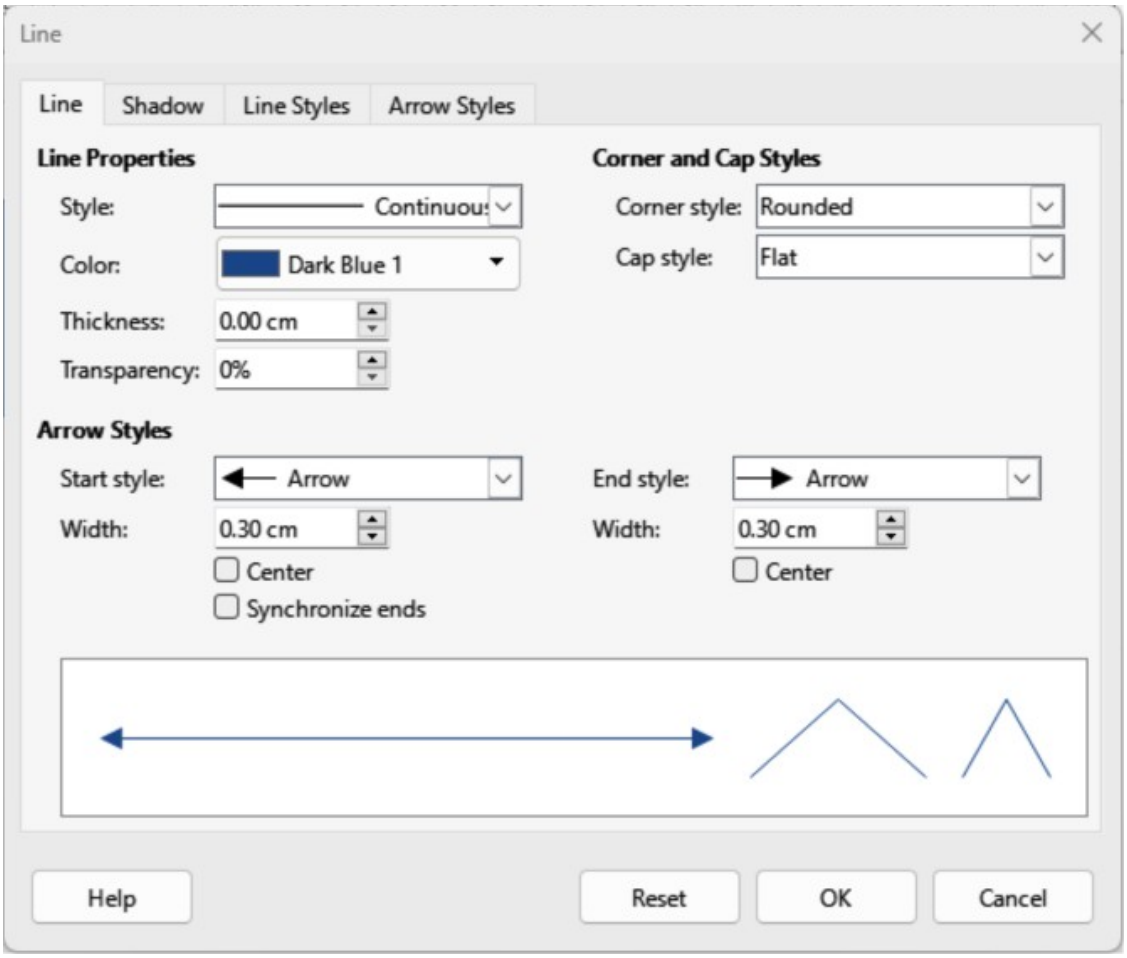

Figure 19: Line dialog — Line page

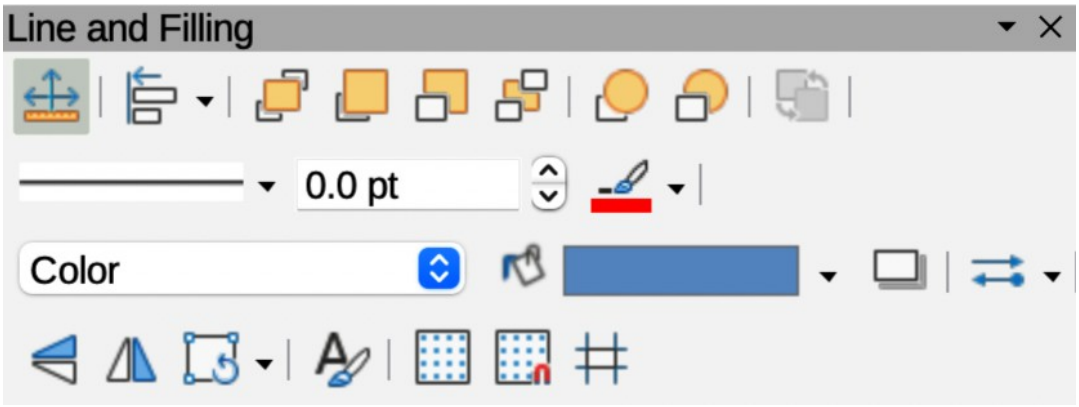

Figure 20: Line and Filling toolbar

Creating arrows

1) Use one of the following methods to create an arrow:

   a) Select the type of line or arrow required in the Lines and Arrows panel of the Shapes deck on the Sidebar (Figure 17 on page 31).

   b) Click on the triangle ▼ next to Lines and Arrows on the Drawing toolbar and select the type of line and arrow required from the options in the Lines and Arrows subtoolbar (Figure 22).

c) Place the cursor at the starting point for the line or arrow, then click and drag the cursor. The arrowheads are drawn at the line ends when the line is completed.

d) For more information on creating lines and arrows, see “Creating lines” on page 31.

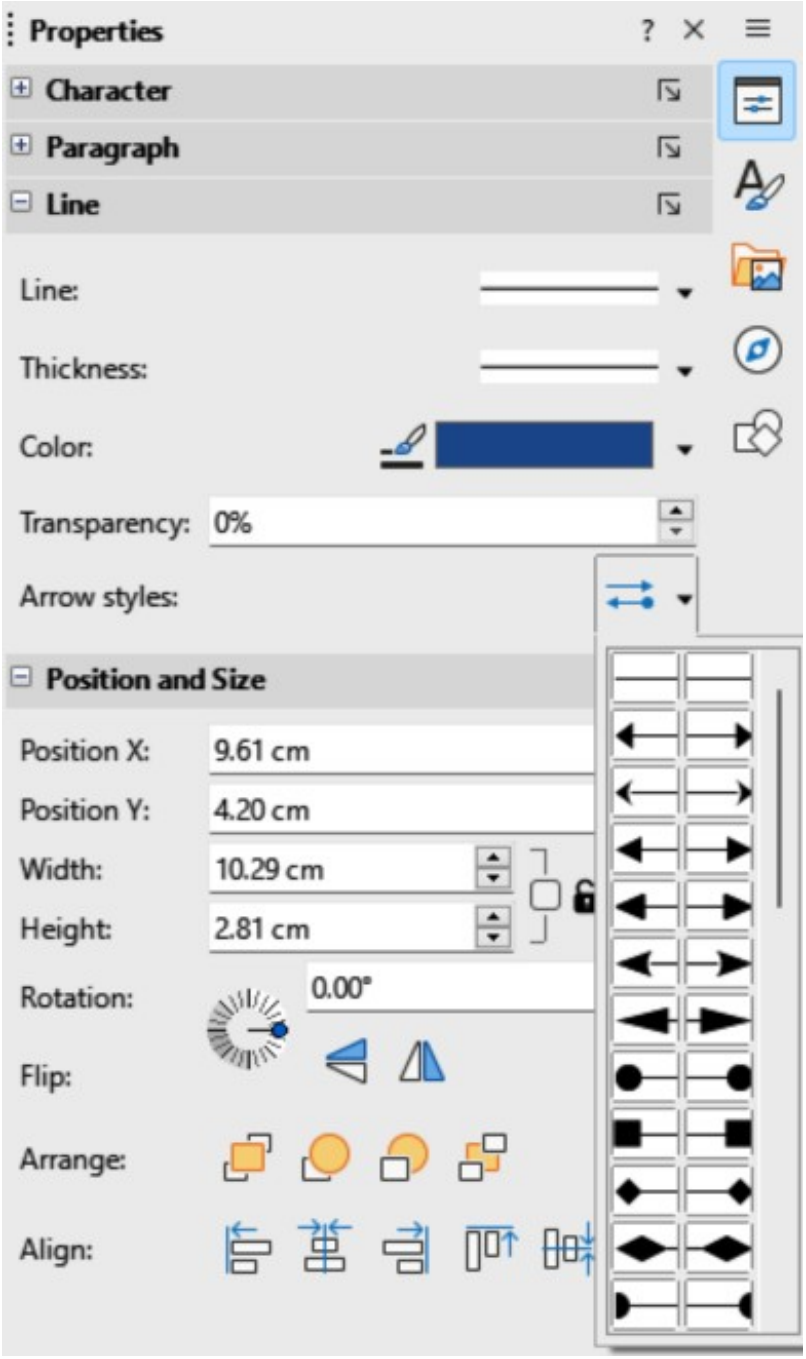

Figure 21: Line panel in Properties deck on Sidebar with Arrowhead styles

Figure 22: Lines and Arrows subtoolbar

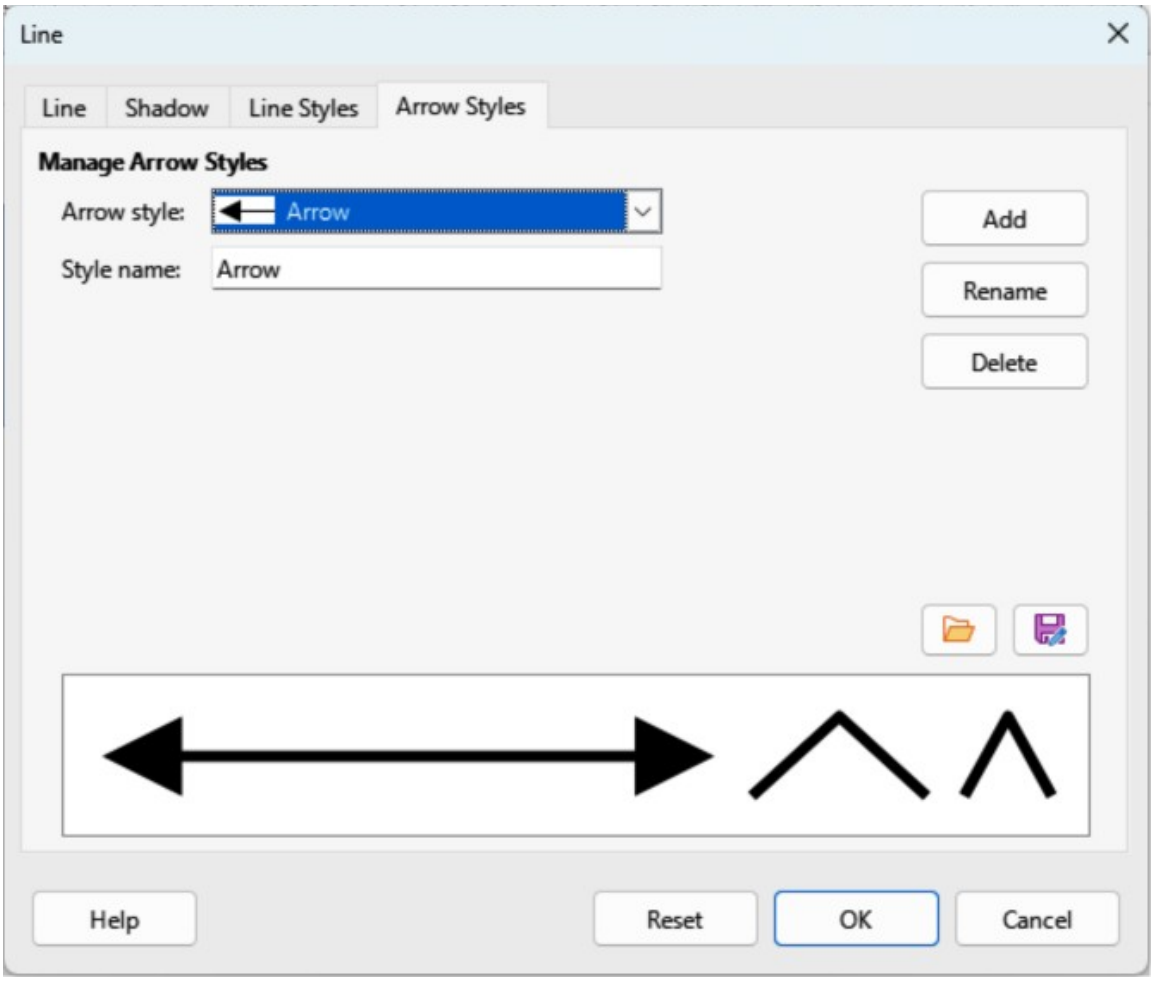

Figure 23: Line dialog — Arrow Styles page

Formatting arrows

1) To format the line used for an arrow, see “Formatting lines” on page 32 for more information.
2) To format an arrow using the same arrowhead style for both arrow ends:
   a) Select the arrow so that the selection handles are displayed.
   b) Go to **Format > Line** on the Menu bar or right-click on the arrow to open the Line dialog (Figure 19 on page 33).
   c) Click on **Arrow Styles** to open the **Arrow Styles** page in the Line dialog (Figure 23) and select an arrow style from the options available in the *Arrow style* drop-down list.
   d) Click **OK** to apply the arrow style and close the Line dialog.
   e) Click in an empty space on the drawing to deselect the arrow.
3) To format an arrow using different arrowhead styles for each arrow end:
   a) Select the arrow so that the selection handles are displayed.
   b) Open the **Line** panel on the Properties deck of the Sidebar (Figure 21 on page 34).
   c) In the **Line** panel, click on *Arrow Style* to open the drop-down list for arrowhead styles.
   d) On the Line and Filling toolbar (Figure 20 on page 33), select an arrowhead style from the left-hand list of arrowhead styles for the arrow start point.

e) On the Line and Filling toolbar (Figure 20 on page 33), select an arrowhead style from the right-hand list of arrowhead styles for the arrow end point.

f) Click in an empty space on the drawing to deselect the arrow.

Note

The option for selecting different arrowhead styles at each end of an arrow is not available in the macOS version of the **Line** panel on the Properties deck in the Sidebar.

Rectangles or squares

1) Use one of the following methods to start drawing a rectangle or square:
   - Click on **Rectangle** on the Drawing toolbar.
   - Select the type of rectangle or square in the **Basic Shapes** panel in the Shapes deck on the Sidebar (Figure 17 on page 31).
   - Click on the triangle ▼ next to **Basic Shapes** on the Drawing toolbar (Figure 15 on page 30) and select the type of rectangle or square required from the available options.
   - Select the type of rectangle or square on the Legacy Rectangles toolbar (Figure 24). To display the Legacy Rectangles toolbar, go to **View > Toolbars** on the Menu bar and select it.
2) Place the cursor at the starting point for the rectangle or square, then click and drag the cursor until the required size is drawn. The rectangle or square is drawn from the starting point using the bottom right corner as the anchor point for the cursor.
3) If necessary, use one of the following options to draw a rectangle or square:
   - If a rectangle option is selected, hold down the *Shift* key while dragging the cursor to draw a square.
   - If a rectangle option is selected, hold down the *Alt* key while dragging the cursor to draw a rectangle from its center.
   - If a rectangle option is selected, hold down the *Shift* and *Alt* keys while dragging the cursor to draw a square from its center.
   - If a square option is selected, hold down the *Shift* key while dragging the cursor to draw a rectangle.
   - If a square option is selected, hold down the *Alt* key while dragging the cursor to draw a square from its center.

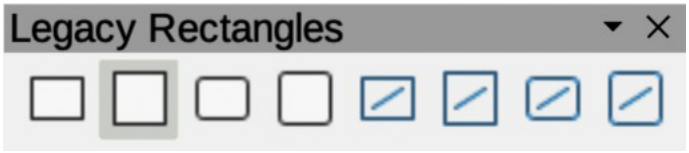

Figure 24: Legacy Rectangles toolbar

Figure 25: Legacy Circles and Ovals toolbar

Note

If the option When creating or moving objects is selected in the **Constrain Object** section of **Tools > Options > LibreOffice Draw > Grid** (macOS **LibreOffice> Preferences > LibreOffice Draw > Grid**), *Shift* key action is reversed. A square is drawn instead of a rectangle. Holding down the *Shift* key a rectangle is drawn. *Shift* key action reversal also applies to ellipses, circles, arcs, and segments.

Ellipses or circles

1) Use one of the following methods to start drawing an ellipse or circle:
   - Click on **Ellipse** on the Drawing toolbar.
   - Select the type of ellipse or circle in the **Basic Shapes** panel in Shapes deck on the Sidebar (Figure 17 on page 31).
   - Click on the triangle ▼ next to **Basic Shapes** on the Drawing toolbar (Figure 15 on page 30) and select the type of ellipse or circle required from the drop-down list.
   - Select the type of ellipse or circle on the Legacy Circles and Ovals toolbar (Figure 25). To display the Legacy Circles and Ovals toolbar, go to **View > Toolbars** on the Menu bar and select it.
2) Place the cursor at the starting point for the ellipse or circle, then click and drag the cursor until the required size is drawn. The ellipse or circle is drawn from the starting point using the bottom right corner as the anchor point for the cursor.
3) If necessary, use one of the following options while drawing an ellipse or circle:
   - If an ellipse option is selected, hold down the *Shift* key while dragging the cursor to draw a circle.
   - If an ellipse option is selected, hold down the *Alt* key while dragging the cursor to draw an ellipse from its center.
   - If an ellipse option is selected, hold down the *Shift* and *Alt* keys while dragging the cursor to draw a circle from its center.
   - If a circle option is selected, hold down the *Shift* key while dragging the cursor to draw an ellipse.
   - If a circle option is selected, hold down the *Alt* key while dragging the cursor to draw a circle from its center.

Tip

To quickly insert an object, press and hold down the *Ctrl* (macOS ⌘) key, then click on an object tool on the Drawing toolbar (Figure 15 on page 30). A standard sized object of the selected object is drawn automatically in the center of the Workspace. The size, shape, and color used are default settings. These settings can be changed to match the drawing requirements. See Chapter 4, Changing Object Attributes for more information.

Dimension lines

Dimension lines display a measurement of an object in the drawing, as shown by the example in Figure 26. A dimension line does not belong to the object itself, but is positioned close to it. An object can have as many dimension lines as necessary to indicate the dimensions of all aspects of an object.

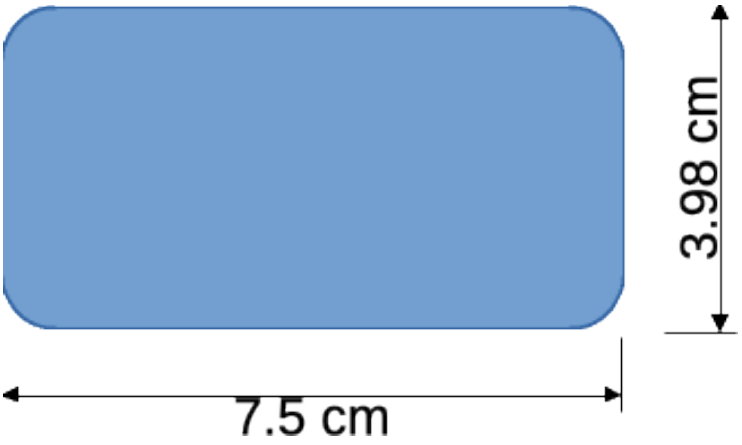

Figure 26: Example of object dimension lines

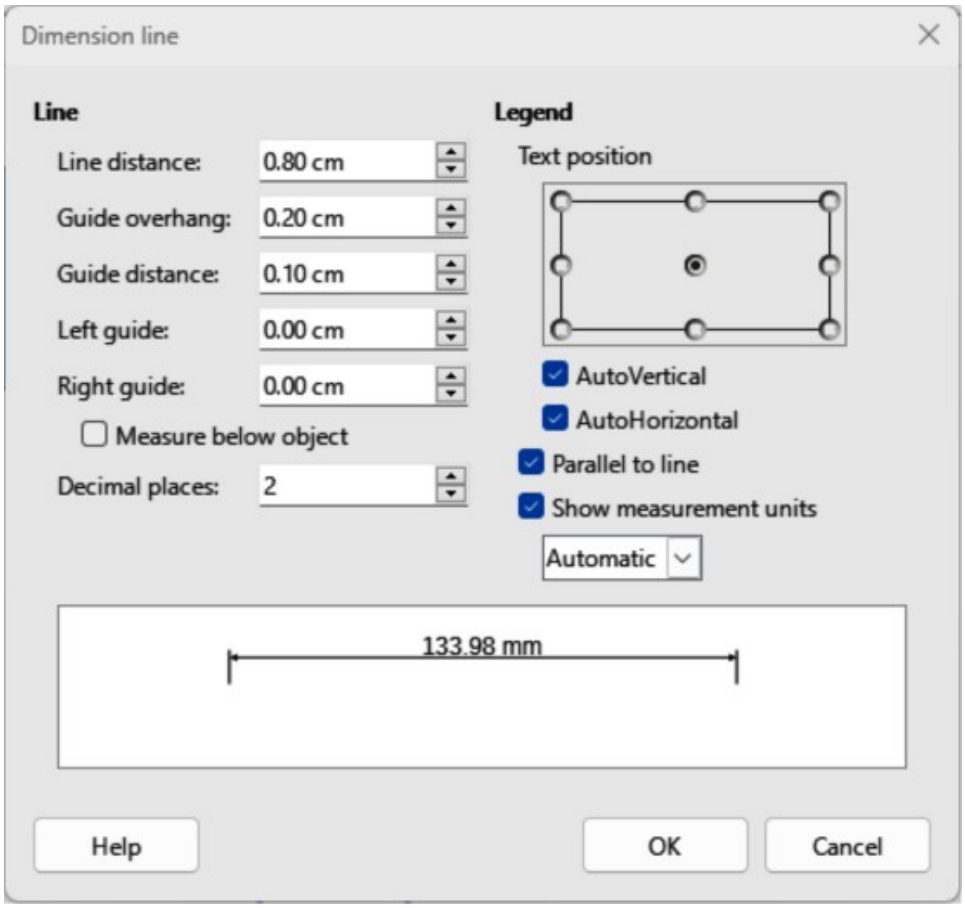

Figure 27: Dimension Line dialog

To format the display of a dimension line and its components, right-click on the dimension line and select Dimensions from the context menu to open the Dimension line dialog (Figure 27).

Note

The measurement units used for dimension lines can be changed. Go to **Tools > Options > LibreOffice Draw > Grid > General** (macOS **LibreOffice > Preferences > LibreOffice Draw > Grid > General**) on the Menu bar and select a measurement unit from the available options in the *Units of measurement* drop-down list.

Tip

To help in accurately positioning dimension lines on an object, it is recommended to use the the horizontal and vertical guide lines. It is also recommended to use the *Snap to grid* option to accurately position objects and dimension lines.

1) Use one of the following options to start drawing a dimension line:
   - Click on the triangle ▼ next to **Lines and Arrows** on the Drawing toolbar and select **Dimension Line** from the drop-down list.
   - Click on **Dimension Line** in the **Lines and Arrows** panel of the Shapes deck on the Sidebar.
2) Place the cursor at the point close to the object to position the dimension line start.
3) Click and drag to draw the dimension line. As the dimension line is drawn, the dimension is displayed and automatically calculated.
4) Select the dimension line, then right-click on the dimension line and select **Dimensions** from the context menu to open the Dimension Line dialog.
5) Format the dimension line using the options available in the Dimension Line dialog. For more information dimension line options, see Chapter 11, Advanced Draw Techniques.
6) Click **OK** to save the changes and close the Dimension Line dialog.
7) Click in an empty space on the drawing to deselect the dimension line.

Arcs and segments

1) Use one of the following methods to start drawing an arc or segment (partial circles or ellipses):
   - Select the type of arc or segment in **Curves and Polygon** panel in the Shapes deck on the Sidebar (Figure 17 on page 31).
   - Click on the triangle ▼ next to **Basic Shapes** on the Drawing toolbar (Figure 15 on page 30) and select the type of arc or segment required from the drop-down list.
   - Select the type of arc or segment from the Legacy Circles and Ovals toolbar (Figure 25 on page 36). To display the Legacy Circles and Ovals toolbar, go to **View > Toolbars** on the Menu bar and select it.
2) Click on and drag the cursor to start creating an arc or segment. Release when the required object size is reached.
3) Move the cursor to the position where the arc or segment starts and click to start drawing the arc or segment. The **Status Bar** indicates the angle in degrees.
4) Move the cursor to the end position of where the arc or segment finishes. The **Status Bar** shows the angle in degrees.
5) Click again to complete the arc or segment.

Curves

1) Select the type of curve required using one of the following methods:
   - Click on the triangle ▼ next to **Curves and Polygons** on the Drawing toolbar (Figure 15 on page 30) and select the type of curve from the drop-down list.
   - Select the type of curve in the **Curve and Polygons** panel in the Shapes deck on the Sidebar (Figure 17 on page 31).

2) Click, hold and drag the cursor from the starting point to draw a line.

3) Release and continue to drag the cursor to bend the line into the required curve shape.

4) Click to set the curve and position end point of the curve on the drawing.

5) Continue dragging the cursor to draw straight lines at the curve end. Each click sets a corner point and allows drawing of another straight line from each corner point.

6) Double-click to end the drawing of a curve and straight lines.

Note

A filled curve and filled polygon automatically joins the last point to the first point closing the object. The selected fill type then fill the object. A curve or polygon without filling is not closed at the end of the drawing.

Polygons

1) Select the type of polygon required using one of the following methods:

   – Click on the triangle ▼ next to **Curves and Polygons** on the Drawing toolbar (Figure 15 on page 30) and select the type of curve from the drop-down list.

   – Select the type of curve in the **Curve and Polygons** panel in the Shapes deck on the Sidebar (Figure 17 on page 31).

2) Click, hold and drag the cursor to draw a line between the first and second corner points.

3) Click again to end the drawing between the first and second corner points of the polygon.

4) Move the cursor to draw the next line and click to finish drawing to the next corner point. Each click sets a corner point and draws another line.

5) Double-click to end the drawing of a polygon.

Polygons 45°

Like ordinary polygons, these are formed from lines, but the angles between lines are restricted to 45 or 90 degrees. 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.

Freeform lines

Using freeform line tools is similar to drawing with a pencil on paper.

1) Click, hold and drag the cursor to the line shape required, then release to complete the freeform line drawing.

2) If **Freeform Line Filled** is selected, the end point is joined automatically to the start point and the object is filled with the selected fill.

Note

The points in curves, polygons and freeform lines can be moved and edited. See Chapter 3, Working with Objects and Chapter 11, Advanced Draw Techniques for more information.

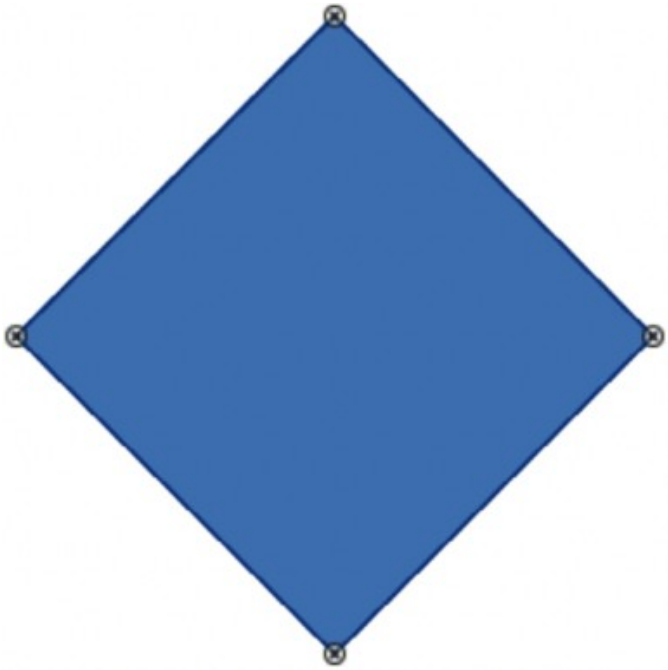

Figure 28: Example of object gluepoints

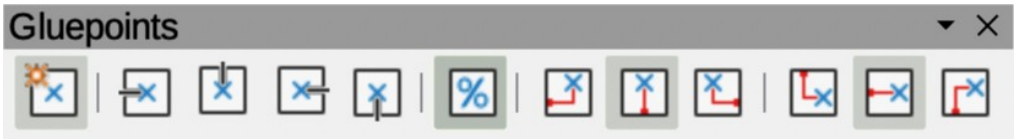

Figure 29: Gluepoints toolbar

Gluepoints and connectors

Gluepoints

All Draw objects have gluepoints, which are not normally displayed, and only become visible when **Connectors** is selected on the Drawing toolbar, or a connector tool is selected in the **Connectors** panel on the Shapes deck in the Sidebar.

Most objects have four gluepoints, as shown in the example in Figure 28. More gluepoints can be added and customized using the Gluepoints toolbar (Figure 29). Go to **View > Toolbars > Gluepoints** on the Menu bar to open the toolbar.

Gluepoints are not the same as the selection handles of an object. Selection handles are for moving or changing the shape of an object. Gluepoints are used to fix or glue a connector to an object so that when the object moves, the connector stays fixed to the object. For a more detailed description on the use of gluepoints, see Chapter 3, Working with Objects, or Chapter 8, Connections, Flowcharts, and Organization Charts.

Connectors

Connectors are lines or arrows whose ends automatically snap to a gluepoint of an object. Connectors are not the same as lines and arrows. When objects are moved or reordered, the connectors remain attached to a gluepoint. Figure 30 shows an example of two objects and connectors between the objects.

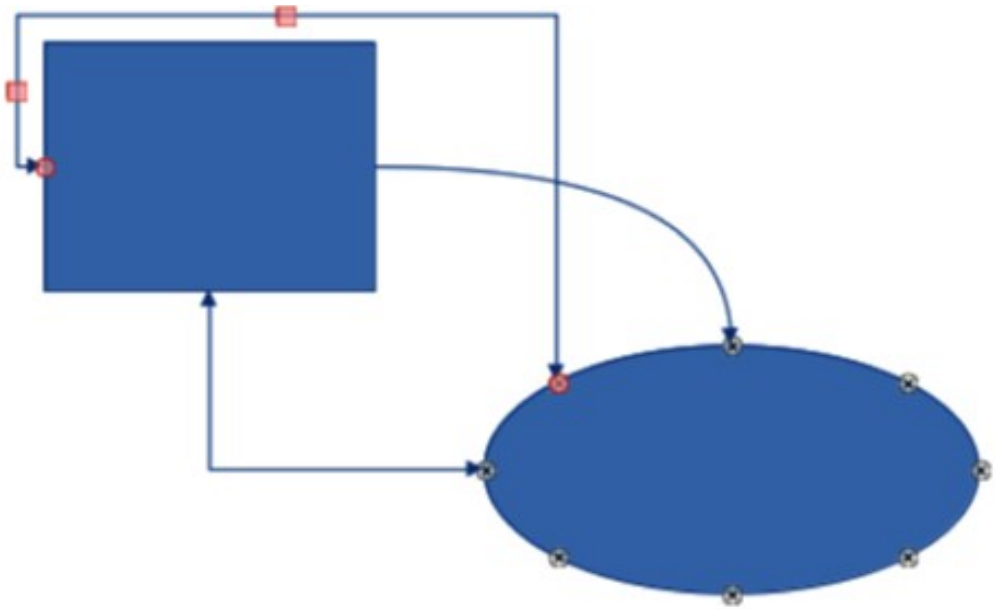

Figure 30: Example of connectors between objects

Draw has several different connectors and connector functions. On the Drawing toolbar, click on the triangle ▼ next to **Connectors** and select a connector type from the drop-down list, or select a connector from the **Connectors** panel in the Shapes deck on the Sidebar. For a more detailed description using connectors, see Chapter 8, Connections, Flowcharts, and Organization Charts.

Drawing geometric shapes

The tools for drawing geometric shapes are located on the Drawing toolbar (Figure 15 on page 30) and the Shapes deck in the Sidebar (Figure 17 on page 31). The use of these tools for geometric shapes is similar to the tools used for drawing rectangles and squares, or ellipses and circles. For more information, see “Drawing basic shapes” on page 30.

Clicking on the triangle ▼ to the right of a tool icon on the Drawing toolbar opens a drop-down list giving access to the toolset for that shape. If necessary, this drop-down list can be “torn off” to create a floating subtoolbar.

- Click and hold on the dotted line at the toolset top (highlighted in Figure 31), then drag it across the screen to the Workspace and release to create a floating subtoolbar
- To close a floating subtoolbar, click on the **X** on the right of the subtoolbar title.

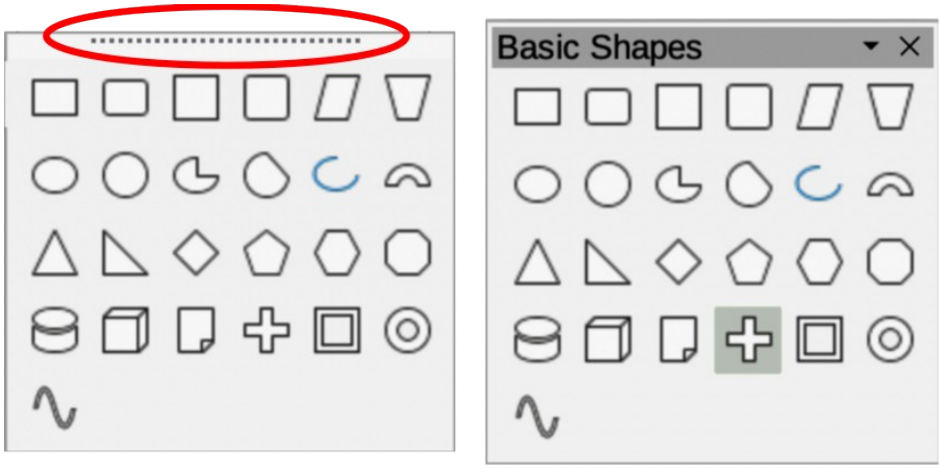

Figure 31: Example of creating a floating subtoolbar

3D Objects

Clicking on the triangle ▼ to the right of **3D Objects** on the Drawing toolbar opens the 3D-Objects subtoolbar (Figure 32). Alternatively, select the required tool from the **3D-Objects** panel in the Shapes deck on the Sidebar.

Figure 32: 3D-Objects subtoolbar

Note

The 3D-Objects subtoolbar is identical to the 3D-Objects toolbar available at **View > Toolbars** on the Menu bar.

Basic shapes

Clicking on the triangle ▼ to the right of **Basic Shapes** on the Drawing toolbar opens the Basic Shapes subtoolbar (Figure 33). This subtoolbar also includes rectangle and ellipse tools that are identical to the ones already displayed on the Drawing toolbar. Alternatively, select the required tool from the **Basic Shapes** panel in the Shapes deck on the Sidebar.

Figure 33: Basic Shapes subtoolbar

Block arrows

Clicking on the triangle ▼ to the right of **Block Arrows** on the Drawing toolbar opens the Block Arrows subtoolbar (Figure 34). Alternatively, select the required tool from the **Block Arrows** panel in the Shapes deck on the Sidebar.

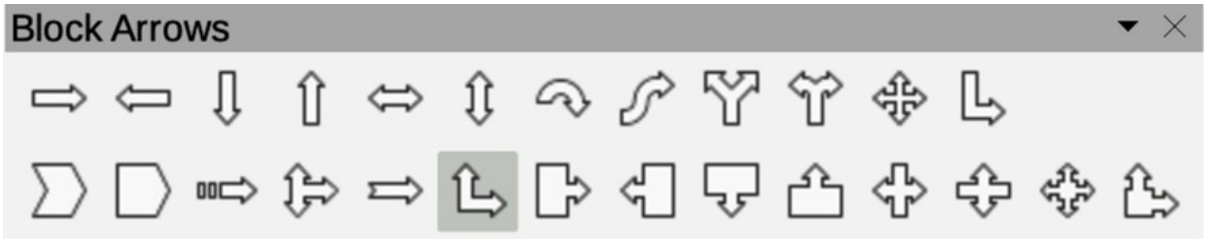

Figure 34: Block Arrows subtoolbar

Callouts

Clicking on the triangle ▼ to the right of **Callout** on the Drawing toolbar opens the Callouts sub-toolbar (Figure 35). Alternatively, select the required tool from the **Callouts** panel in the Shapes deck on the Sidebar.

Figure 35: Callouts subtoolbar

Flowcharts

Clicking on the triangle ▼ to the right of **Flowchart** on the Drawing toolbar opens the Flowchart subtoolbar (Figure 36) for symbols. Alternatively, select the required tool from the **Flowchart** panel in the Shapes deck on the Sidebar. For more information on the creation of flowcharts, organization charts, and similar planning tools, see Chapter 8 Connections, Flowcharts and Organization Charts.

Figure 36: Flowchart subtoolbar

Stars and banners

Clicking on the triangle ▼ to the right of **Stars and Banners** on the Drawing toolbar opens the Stars and Banners subtoolbar (Figure 37). Alternatively, select the required tool from the **Stars and Banners** panel in the Shapes deck on the Sidebar.

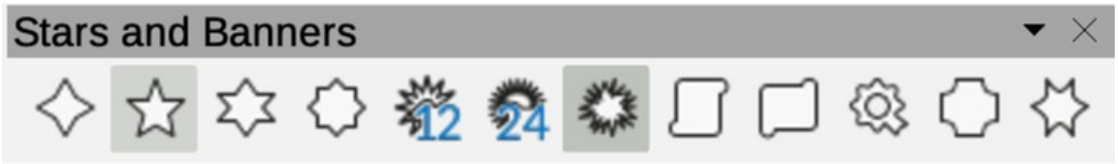

Figure 37: Stars and Banners subtoolbar

Symbol shapes

Clicking on the triangle ▼ to the right of **Symbol Shapes** on the Drawing toolbar opens the Symbol Shapes subtoolbar (Figure 38). Alternatively, select the required tool from the **Symbol Shapes** panel in the Shapes deck on the Sidebar.

Figure 38: Symbol Shapes subtoolbar

Adding, inserting and formatting text

In Draw text can be added, inserted, and formatted to in text boxes, objects, and shapes. For more information on how to add, insert, and format text in a drawing, see Chapter 9, Adding and Formatting Text.

Draw Guide 24.8

Chapter 3, Working with Objects

Introduction

This chapter explains the tools and functions for modifying existing drawings for creating and editing a selected object or a group of selected objects. When several objects are selected, a selection frame around the objects corresponds to the smallest rectangle containing all objects. This selection frame is also called a selection rectangle, or marquee. Selection handles appear on this rectangular frame which is also large enough to contain all objects when that have been selected.

Note

The color and shape of selection handles changes depending on the selected tool and function when changing object properties. Also, the color of selection handles depends on computer operating system and computer set up.

Selecting objects

Direct selection

Direct clicking on an object is the easiest selection method. For objects not filled, click on the object border to select it. To select more than one object, hold the *Shift* key down while clicking on objects. To deselect an object, move the cursor into a blank space and click.

Selection by framing

Click and drag the cursor around several objects to create a selection rectangle around several objects. Only objects that are within this selection rectangle are selected. Make sure **Select** on the Drawing toolbar (Figure 39) is active when selecting multiple objects.

Selecting hidden objects

Objects located behind other objects and not visible can also be selected. When a hidden object is selected, its selection handles appear through the objects covering the selected object.

- **Windows, Mac or Linux** — press the *Tab* key to select and cycle through objects in a drawing, stopping at the hidden object to select it. To cycle through objects in reverse order, press *Shift*+*Tab*.
- **Windows or Mac only** — select an object in front of a hidden object, then press the *Alt* key (macOS ⌥) and click to select the hidden object. If there are several hidden objects, keep holding down the *Alt* key (macOS ⌥) and click until the required object is reached. To cycle through objects in reverse order, hold down the *Alt*+*Shift* keys (macOS ⌥+*Shift*) and click.

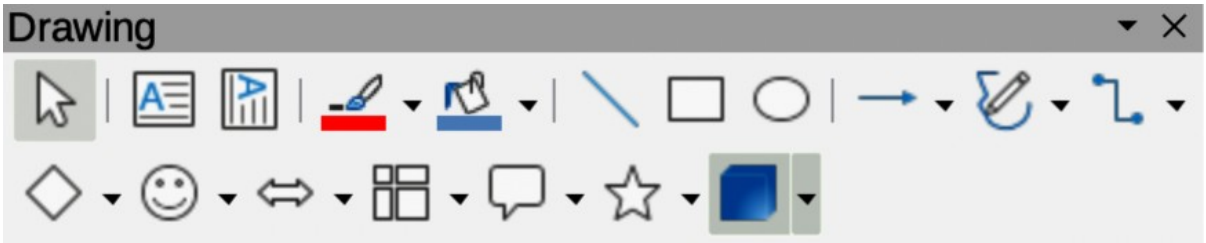

Figure 39: Drawing toolbar

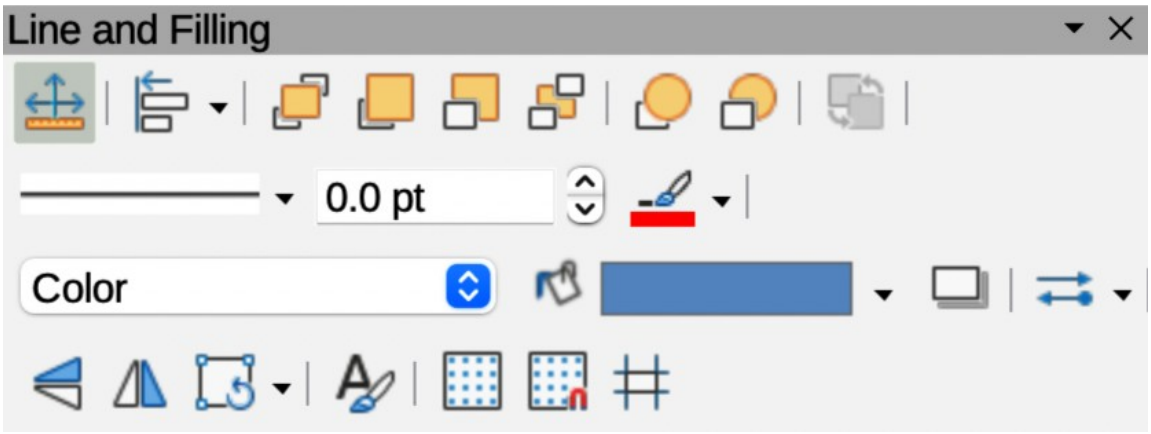

Figure 40: Line and Filling toolbar

Arranging objects

In complex drawings, several objects can be stacked on top of one another. Use one of the following methods to rearrange the stacking order by moving an object forward or backward:

- 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*++) (macOS ⌘+*Shift*++)
  - **Bring Forward** (*Ctrl*++) (macOS ⌘++)
  - **Send Backward** (*Ctrl*+–) (macOS ⌘+–)
  - **Send to Back** (*Ctrl*+*Shift*+–) (macOS ⌘+*Shift*+–)
  - **In Front of Object**
  - **Behind Object**
- Select an object, then select one of the **Arrange** tools at the left end of the Line and Filling toolbar (Figure 40). When the cursor hovers over a tool, its function is indicated.

Positioning and adjusting objects

Zoom

For positioning and adjustment of objects, Draw has a zoom function that reduces or enlarges the display of the current drawing. For example, zoom in to position objects on a drawing with greater accuracy, or zoom out to see the complete drawing. Zooming is controlled using the **Status Bar**, Zoom & View Layout dialog, or Zoom toolbar.

Note

The zoom function is handled differently in a Linux operating system. Drawings saved with 100% zoom setting in Windows or macOS are displayed at a larger zoom setting than in a Linux operating system.

Status bar

The zoom controls are located on the right side of the **Status Bar** (Figure 41) for easy access when zooming. Use one of the following methods to change the zoom factor:

- Use **Fit page to current window** to fit the drawing to the open window.

Figure 41: Status Bar zoom controls

(1) Fit page to current window (2) Zoom slide control (3) Zoom percentage

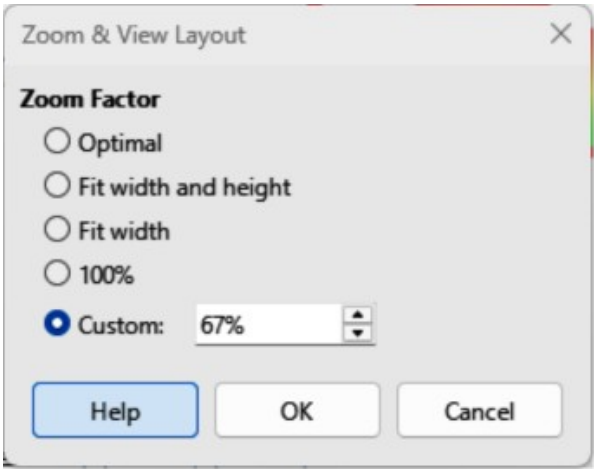

Figure 42: Zoom & View Layout dialog

- Move the **Zoom slide control** toward the minus sign (–) on the zoom slide control to reduce the zoom factor.
- Move the **Zoom slide control** toward plus sign (+) on the zoom slide control to increase the zoom factor.
- Right-click on the **Zoom percentage** number and select a zoom option from the context menu that opens.

Zoom & View Layout dialog

Open the Zoom & View Layout dialog (Figure 42) using one of the following methods:

- Click on the zoom percentage number in the **Status Bar**.
- Go to **View > Zoom > Zoom** on the Menu bar.

The Zoom & View Layout dialog provides the following display options:

Zoom Factor

Sets the zoom factor for displaying the current document and all documents of the same type that are subsequently opened.

Optimal

Resizes the display to fit the text width in the document.

Fit width and height

Displays the entire page on the screen.

Fit width

Displays the complete document page width. The top and bottom page edges may not be visible.

100%

Displays the document at its actual size.

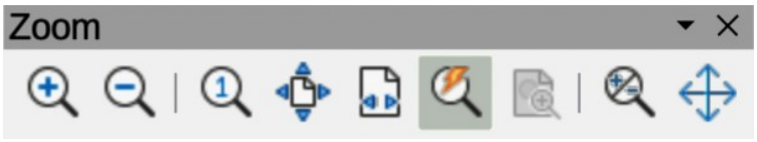

Figure 43: Zoom toolbar

Custom

Enter a percentage in the box for the zoom factor to display the document, or use the minus (–) or plus (+) signs to change the zoom factor.

Zoom toolbar

Go to **View > Toolbars > Zoom** on the Menu bar to open the Zoom toolbar (Figure 43). The tools available, from left to right, are as follows:

Zoom In

Displays the drawing at twice its current size each time the tool is selected.

Zoom Out

Displays the drawing at half its current size each time the tool is selected.

100%

Displays the drawing at its actual size.

Zoom Previous

Returns the drawing display to the previous zoom factor applied.

Zoom Next

Undo the action of the previous zoom command.

Entire Page

Displays the whole drawing in the Workspace.

Page Width

Displays the complete drawing width. The slide top and bottom edges may not be visible.

Optimal

Resizes the display to include all objects on the drawing.

Object Zoom

Resizes the display to fit the selected object(s).

Zoom & Pan

Zooms in for each click. *Ctrl+click* (macOS ⌘+*click*) zooms out for each click. *Shift+click* allows panning of a drawing.

Shift

Moves the drawing within the **Workspace**. Place the cursor on the drawing and drag to move the drawing.

Moving and adjusting object size

When moving an object or changing its size, check the left corner of the **Status Bar** at the bottom of the Workspace (Figure 44). From left to right, this area shows a shape is selected, its position on the drawing in X/Y coordinates and object dimensions. The measurement units are selected in **Tools > Options > LibreOffice Draw > General** (macOS **Preferences > LibreOffice > LibreOffice Draw > General**).

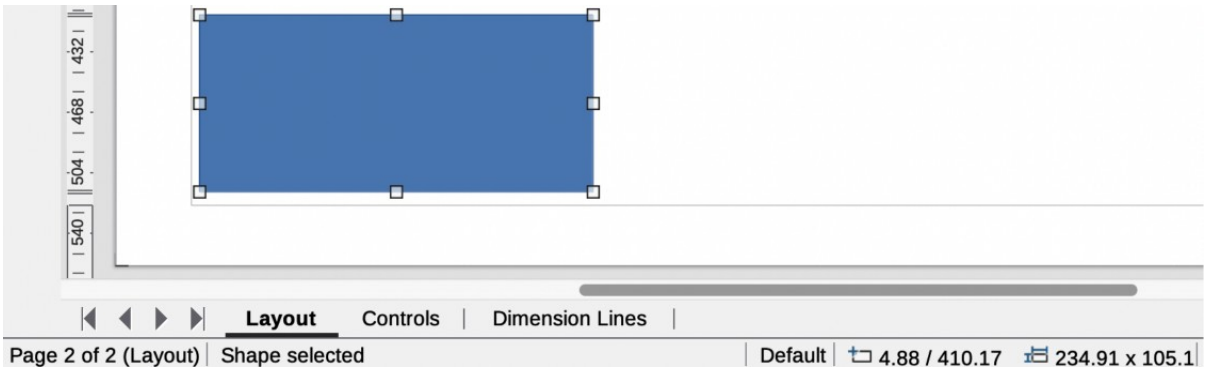

Figure 44: Example of left end of Status Bar with shape selected

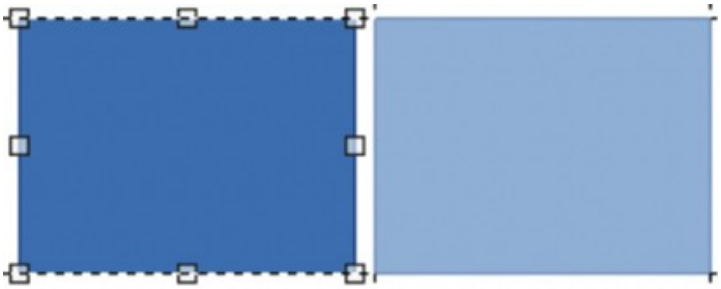

Figure 45: Example of moving selected objects

Moving objects

To move an object (or a group of objects), select it, then click within the object borders and drag the object. During movement, a ghost object image appears to help with repositioning, as shown by the example in Figure 45. When the object reaches its new location, release the object.

Adjusting object size

To change the size of a selected object (or a group of selected objects), move the cursor to a selection handle. The cursor changes shape to indicate the direction of movement for that selection handle. Click on the selection handle and drag it to change object size. The results depend on which selection handle is used, as follows:

- To resize an object in one axis, use a side, top, or bottom handle.
- To resize using both axes, use a corner handle.

As an object size changes, a ghosted object outline appears, as shown by the example in Figure 46. When the required object size is reached, release the object.

Note

Pressing and holding the *Shift* key when resizing an object changes the size to maintain the aspect ratio between width and height. This *Shift* key behavior works on all selection handles.

Modifying arcs

The size of an arc is changed by adjusting the positions of the start and end points of an arc. The selection handle at the start point of an arc is larger than the end point of an arc.

1) Select an arc, then right click on the arc and select **Points** from the drop down menu, or press the *F8* key. Two handles appear at the start and end of the arc, as shown by the example in Figure 47

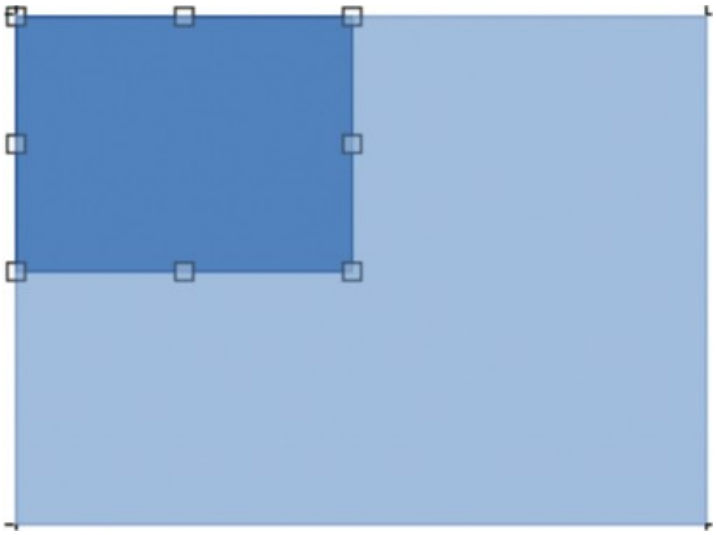

Figure 46: Example of adjusting object size

Figure 47: Example of modifying arcs

2) Click and drag on the start or end handle to change the arc shape.

3) Release the selected handle when the required arc shape is achieved.

Rotating and slanting objects

Rotating objects

To rotate an object (or a group of objects), select the object and change to rotation mode as follows:

1) Select an object, or a group of objects, so that the selection handles are displayed.

2) Use one of the following methods to switch to rotation mode. The selection handles change shape and color and a center of rotation indicator appears in the object center, as shown by the example in Figure 48.

   – Click again on a selected object, or a group of objects. DO NOT double click. A double click is used to switch an object into text mode.

   – Click on the triangle ▼ on the right of **Transformations** on the Line and Filling toolbar (Figure 40 on page 49) and select **Rotate** from the pop up menu.

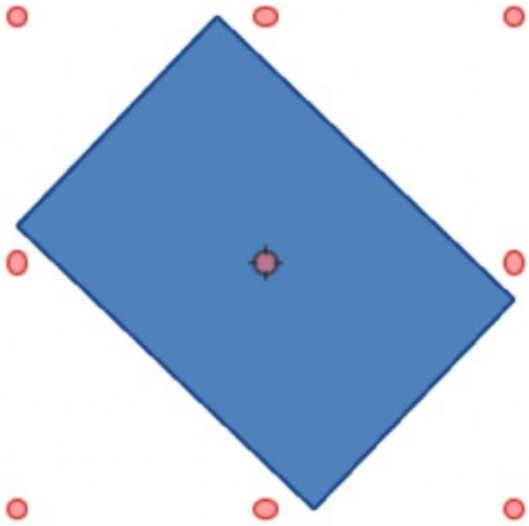

Figure 48: Example of rotation mode

Figure 49: Transformations toolbar

– Go to **View > Toolbars > Transformations** on the Menu bar to open the Transformations toolbar (Figure 49) and select **Rotate**.

3) Move the cursor over a corner selection handle and the cursor changes shape to indicate rotation mode.

4) Click on the corner selection handle and drag it to rotate the object. Release the selection handle when the required object rotation is reached.

Notes

The rotation center is normally located at the center of an object. To change the rotation center position, click on the rotation center and drag it until it is at the required position. The rotation center can be repositioned outside of the object.

Rotation works in a slightly different way for 3D objects because it occurs in a three dimensional space and not in a single plane. See Chapter 7, Working with 3D Objects for more information.

Slanting objects

The axis used for slanting an object is the object edge directly opposite the center handle being used to slant the object. This axis is fixed in location while the other sides of the object move in relation to it as the selection handle is dragged. In Figure 50 the selection handle at the center of the object bottom has been used to slant the object.

1) Select an object and use one of the following methods to switch to rotation mode. The selection handles change shape and color and a center of rotation indicator appears in the object center.

   – Click again on a selected object.

   – Click on the triangle ▼ on the right of **Transformations** on the Line and Filling toolbar and select **Rotate** from the pop up menu.

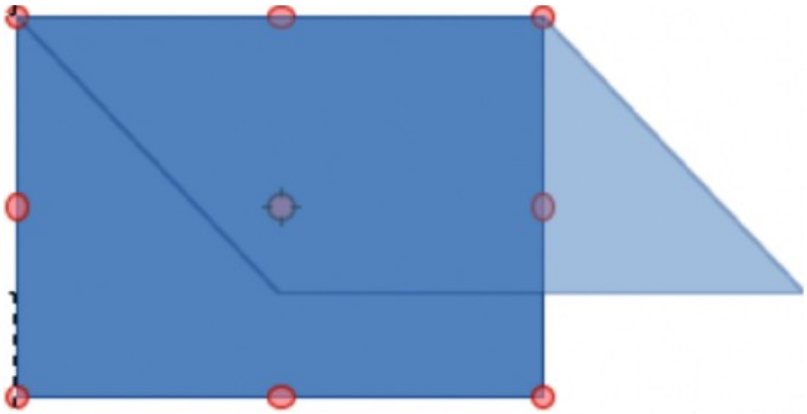

Figure 50: Example of slanting objects

– Go to **View > Toolbars > Transformations** on the Menu bar to open the Transformations toolbar, then select **Rotate**.

2) Move the cursor over a selection handle at the midpoint of the object top, bottom, left or right sides and the cursor changes shape to indicate slanting direction.

3) Click and drag the selection handle to slant the object. Release the cursor when the desired object slant is reached. A ghosted object outline being slanted appears and the current angle of slanting is shown in the **Status Bar**.

Note

Press and hold the *Shift* key while rotating or slanting an object restricts movement to 15° steps. This is the default behavior of the *Shift* key. However, if **When creating or moving objects** has been selected in **Tools > Options > LibreOffice Draw > Grid** (macOS **LibreOffice > Preferences > LibreOffice Draw > Grid**), the *Shift* key action is reversed and rotation or slanting is restricted to 15° of movement unless the *Shift* key is pressed.

Setting exact position, size, rotation and slant

Using the cursor to position and resize objects is not exact. If greater accuracy is required to position and size an object, it is recommended to use the Position and Size dialog (Figure 51), or the **Position and Size** panel (Figure 52 on page 57) in the Properties deck on the Sidebar.

- To open the Position and Size dialog, select an object and use one of the following methods:
  - Go to **Format > Position and Size** on the Menu bar.
  - Right-click on the object and select **Position and Size** from the context menu.
  - Use the keyboard shortcut *F4*.
- To open the **Position and Size** panel in the Properties deck on the Sidebar, select an object, then click on **Properties** on the Sidebar and click on the chevron **>** on the **Position and Size** title bar to open the panel.

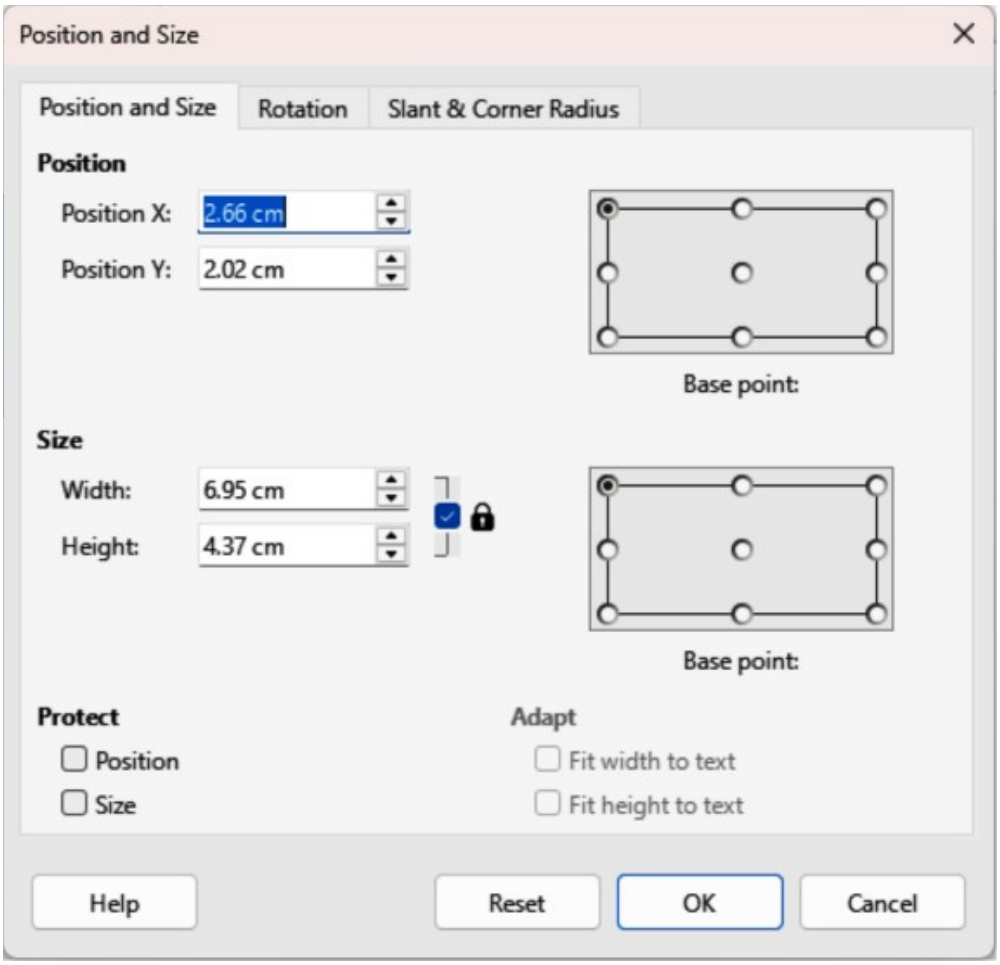

Figure 51: Position and Size dialog

Position and Size

Position

Specifies the position of a selected object location on a page. The units of measurement used for X//Y coordinates, and object width and height are set by going to **Tools > Options > LibreOffice Draw > General** (macOS **LibreOffice > Preferences > LibreOffice Draw > General**).

Position X

Enter the horizontal distance required to move an object relative to the base point selected in the grid.

Position Y

Enter the vertical distance required to move an object relative to the base point selected in the grid.

Base point

Select a base point in the grid and then enter the amount required to shift an object relative to the base point that is selected in the *Position Y* and *Position X* boxes. The base points correspond to the selection handles on an object. This option is only available in the Position and Size dialog.

Size

Specify the amount required to resize a selected object with respect to a selected base point.

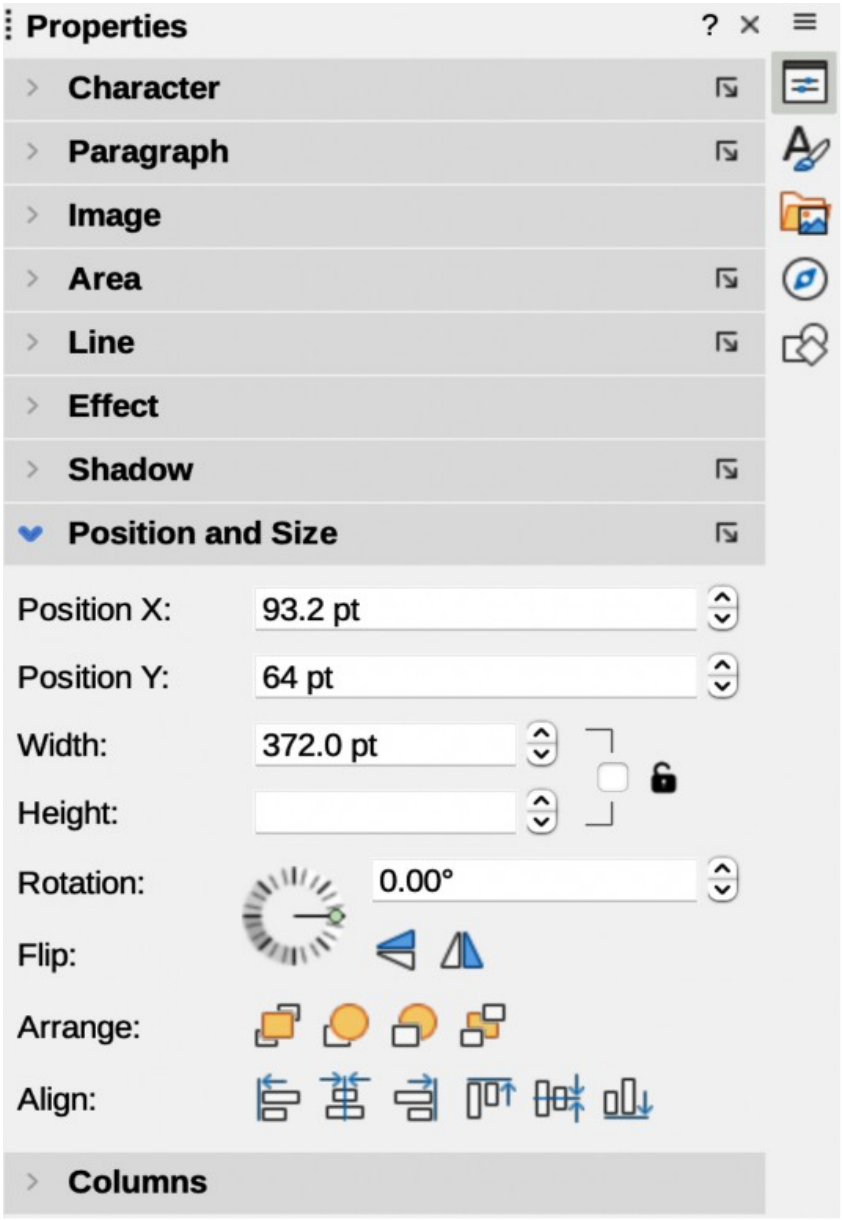

Figure 52: Position and Size panel in Properties deck on Sidebar

Width

Enter a width for a selected object.

Height

Enter a height for a selected object.

Keep ratio

Maintains proportions when resizing a selected object.

Base point

Select a base point in the grid, and then enter the new size dimensions for a selected object in the *Width* and *Height* boxes. This option is only available in the Position and Size dialog.

Protect

This option is only available in the Position and Size dialog.

Position

Prevents changes to position or size for a selected object.

Size

Prevents object resizing.

Adapt

When selected allows the size of a text box to adjust and match the size of text being entered into a text box. This option is only available in the Position and Size dialog for text boxes.

Fit width to text

Expands an object width to the text width, if the object is smaller than the text.

Fit height to text

Expands an object height to the text height, if the object is smaller than the text.

Note

The position and size default location for a base point is the upper left corner of the drawing area. This base point can be temporarily changed to make positioning or dimensioning simpler by clicking on a position corresponding to the required base point location. This change in base point is only valid for single use and the base point is reset to the default position of top left corner when the Position and Size dialog is closed.

Rotating objects

To accurately rotate an object, click on the **Rotation** tab of the Position and Size dialog to open the **Rotation** page (Figure 53). The options allow the rotation angle and pivot point location to be defined. Alternatively, use the available options for rotation in the **Position and Size** panel in the Properties deck on the Sidebar (Figure 52).

Pivot Point

A selected object is rotated around a specified pivot point and this option is only available in the Position and Size dialog. The default position for the pivot point is the center of an object. The pivot point can be moved from its default position by changing the setting for *Position X* and/or *Position Y*, or selecting a position in *Default settings*.

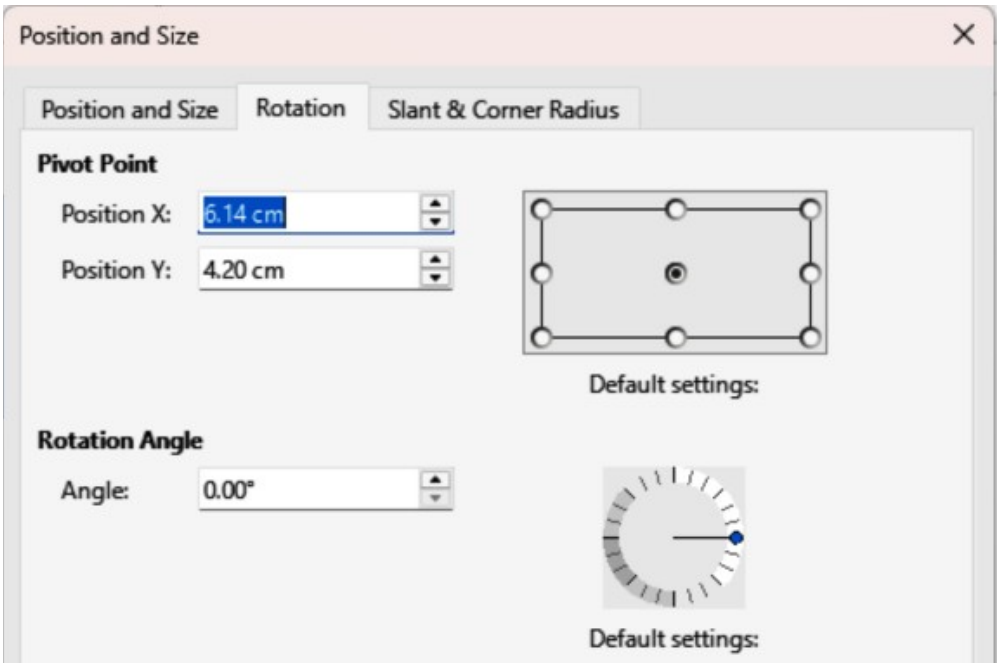

Figure 53: Position and Size dialog — Rotation page

Position X

Enter a horizontal distance from the page left edge to change the pivot point position.

Position Y

Enter a vertical distance from the page top edge to change the pivot point position.

Default settings

Select the pivot point position. Default position is the center of an object. Changing the pivot point is valid for single use only and is reset to the default central position when the Position and Size dialog is closed.

Rotation Angle

Specify the number of degrees required to rotate a selected object. This option is only available in the Position and Size dialog.

Angle

Enter the number of degrees that required to rotate the selected object.

Default settings

Click on the indicator to rotate the object. The number of degrees rotated is shown in the Angle box.

Slant and corner radius

To accurately set a corner radius or slant angle of an object, click on the **Slant & Corner Radius** tab of the Position and Size dialog (Figure 54) to open the **Slant & Corner Radius** page. Options for slant and corner radius are only available in the Position and Size dialog.

Corner Radius

This option is only available for the corners of a rectangular or square object that has been created using the Legacy Rectangles toolbar. This toolbar is optional and is opened by going to **View > Toolbars > Legacy Rectangles** on the Menu bar. If this option is grayed out, the corner radius cannot set.

Radius

Enter the circle radius that is to be used to round corners. The larger the value for corner radius set, rounded corners become more visible.

Slant

Slants the selected object along the object bottom edge.

Angle

Enter the slant axis angle. The slant angle relates to how much an object inclines or slants from its normal vertical position on a drawing.

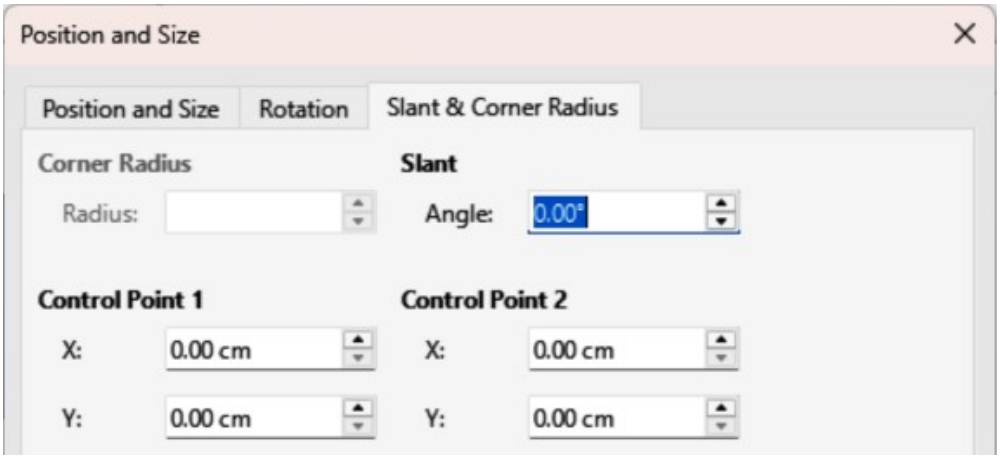

Figure 54: Position and Size dialog — Slant & Corner Radius page

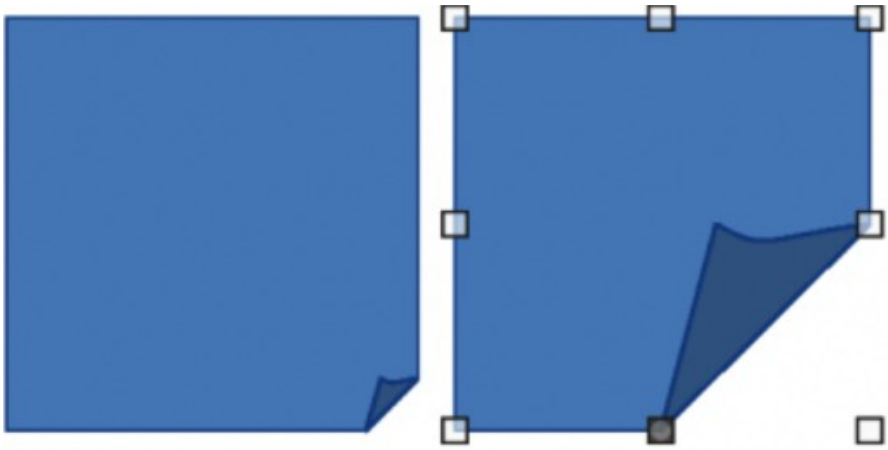

Figure 55: Example of corner point adjustment

Control Point 1/Control Point 2

These control points are special handles or dots that are available on some shapes and are used to change the properties of a shape. If these options are grayed out, then the shape does not have a special handle and coordinates cannot be set.

Enter a value to set the special handle X and Y coordinates in relation to the shape top left corner. The example shown in Figure 55 shows the shape change after adjusting the X coordinate of **Control Point 1** of the special handle.

Note

For more information on control points, see “Changing object shape” on page 67.

Using grid and snap functions

Position objects accurately using the grid and snap functions available in Draw. It is recommended to use the highest practical zoom value for a drawing when using the grid and snap functions. Two different functions can be used at the same time, for example, snapping to a guide line and page edge. It is recommended to only activate snap functions that are required.

Configuring grid and snap

To configure the grid and snap functions in a drawing, go to **Tools > Options > LibreOffice Draw > Grid** (macOS **LibreOffice > Preferences > LibreOffice Draw > Grid**) on the Menu bar to open the Options LibreOffice Grid dialog (Figure 56). Grid and snap functions are displayed and selected using one of the following methods:

- Using the Options LibreOffice Grid dialog.
- Right clicking on a drawing and selecting options from the context menu.
- Using the tools on the Options toolbar (Figure 57). If the Options toolbar is not open, go to **View > Toolbars > Options** on the Menu bar.

Grid and snap functions

Grid

Specifies the settings for a drawing configurable grid to determine the exact position of objects. Also, this grid can be set to match the snap grid. If the snap grid is activated, but have to move or create individual objects without snap positions, keep the *Shift* key pressed to deactivate this function.

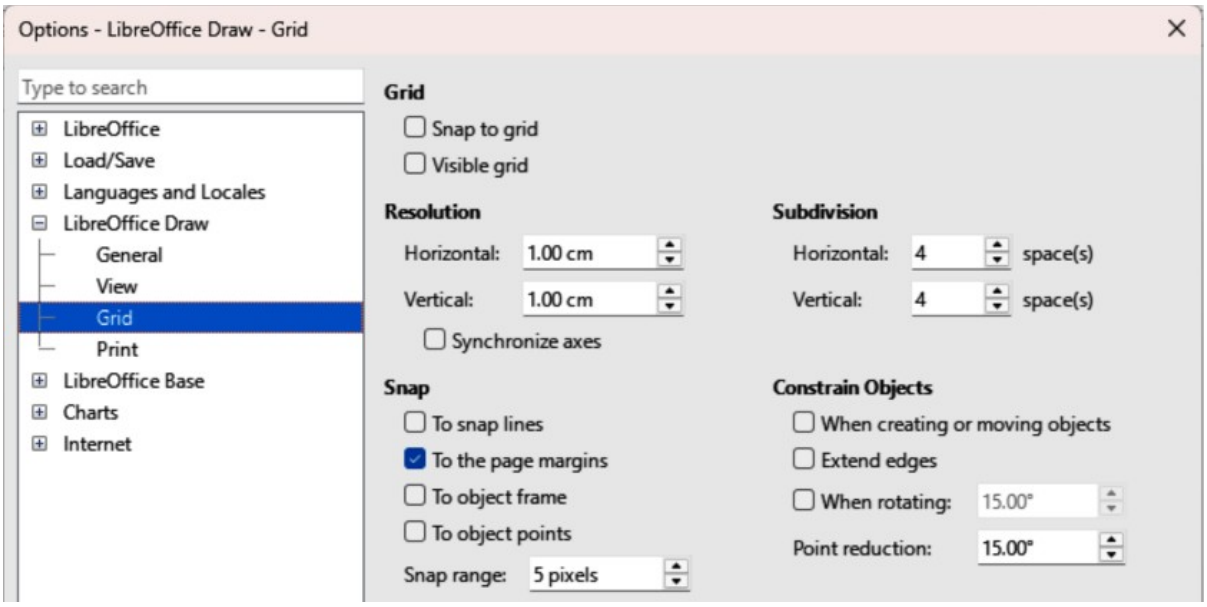

Figure 56: Options LibreOffice Draw dialog — Grid page

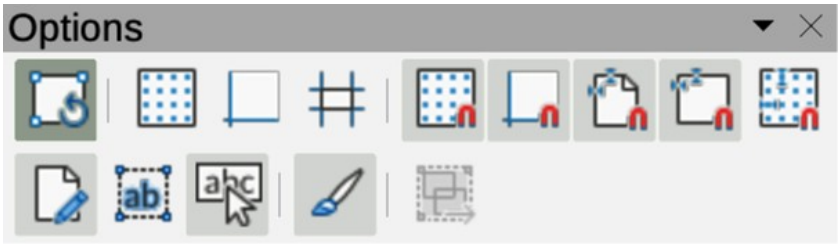

Figure 57: Options toolbar

Snap to grid

Specifies whether to move frames, drawing elements, and controls only between grid points. To change the snap grip status only for the current action, drag an object while holding down the `Ctrl` key (macOS ⌘).

Visible grid

Specifies whether to display the grid.

Resolution

Horizontal

Defines the unit of measure for the spacing between grid points on the X-axis.

Vertical

Defines the grid points spacing in the desired unit of measurement on the Y-axis.

Synchronize axes

Specifies whether to change the current grid settings symmetrically. The resolution and subdivision for the X and Y axes remain the same.

Subdivision

Horizontal

Specify the number of intermediate spaces between grid points on the X-axis.

Vertical

Specify the number of intermediate spaces between grid points on the Y-axis.

Snap

To snap lines

Snaps the edge of a dragged object to the nearest snap line when the object is released. This setting can also be defined using **Snap to Snap Guides** on the Options toolbar.

To the page margins

Specifies whether to align the graphic object contour to the nearest page margin. The cursor or a contour line of the graphics object must be in the snap range. This function can also be accessed using **Snap to Page Margins** in the Options toolbar.

To object frame

Specifies whether to align the graphic object contour to the border of the nearest graphic object. The cursor or a contour line of the graphics object must be in the snap range. This function can also be accessed with **Snap to Object Border** in the Options toolbar.

To object points

Specifies whether to align the graphic object contour to the points of the nearest graphic object. This only applies if the cursor or a contour line of the graphics object is in the snap range. This function can also be accessed with **Snap to Object Points** in the Options toolbar.

Snap range

Defines the snap distance between the cursor and the object contour. Snaps to a snap point if the cursor is closer than the distance selected.

Constrain Objects

When creating or moving objects

Specifies that graphic objects are restricted vertically, horizontally or diagonally (45°) when creating or moving them. This setting can be temporarily deactivated by pressing the *Shift* key.

Extend edges

Specifies that a square is created based on the longer side of a rectangle when the *Shift* key is pressed before releasing the object. This also applies to an ellipse where a circle is created based on the ellipse longest diameter. When *Extend edges* is not selected, a square or a circle is created based on the shorter side or diameter.

When rotating

Specifies that graphic objects can only be rotated within the rotation angle that is selected. To rotate an object outside the defined angle, press the *Shift* key when rotating. Release the object when the desired rotation angle is reached.

Point reduction

Defines the angle for point reduction. When working with polygons, this is useful for reducing editing points.

Snap to grid

Using Snap to Grid

Snap to Grid is used when moving an object onto a grid point in a drawing. This function is selected using one of the following methods:

- Go to **View > Snap Guides > Snap to Grid** on the Menu bar.
- Right-click on a drawing and select **Snap Guides > Snap to Grid** from context menu.
- Click on **Snap to Grid** on the Options toolbar.

Displaying grid

Use one of the following methods to display or hide the grid in a drawing:

- Go to **View > Grid and Helplines > Display Grid** on the Menu bar.
- Click on **Display Grid** on the Options toolbar.
- Right-click on a drawing and select **Grid and Helplines > Display Grid** from the context menu.
- Select **Visible grid** in the Options LibreOffice Draw Grid dialog.

Changing color of grid points

By default and depending on the computer setup, grid points are gray and not always easy to see. Change the grid point color as follows:

1) Go to **Tools > Options > LibreOffice > Application Colors** (macOS **LibreOffice > Preferences > LibreOffice > Application Colors**) to open the Application Colors dialog (Figure 58).
2) Go to **Drawing/Presentation** and select a more suitable color for the grid from the drop-down list.
3) Click on **OK** to save the changes and close the dialog.

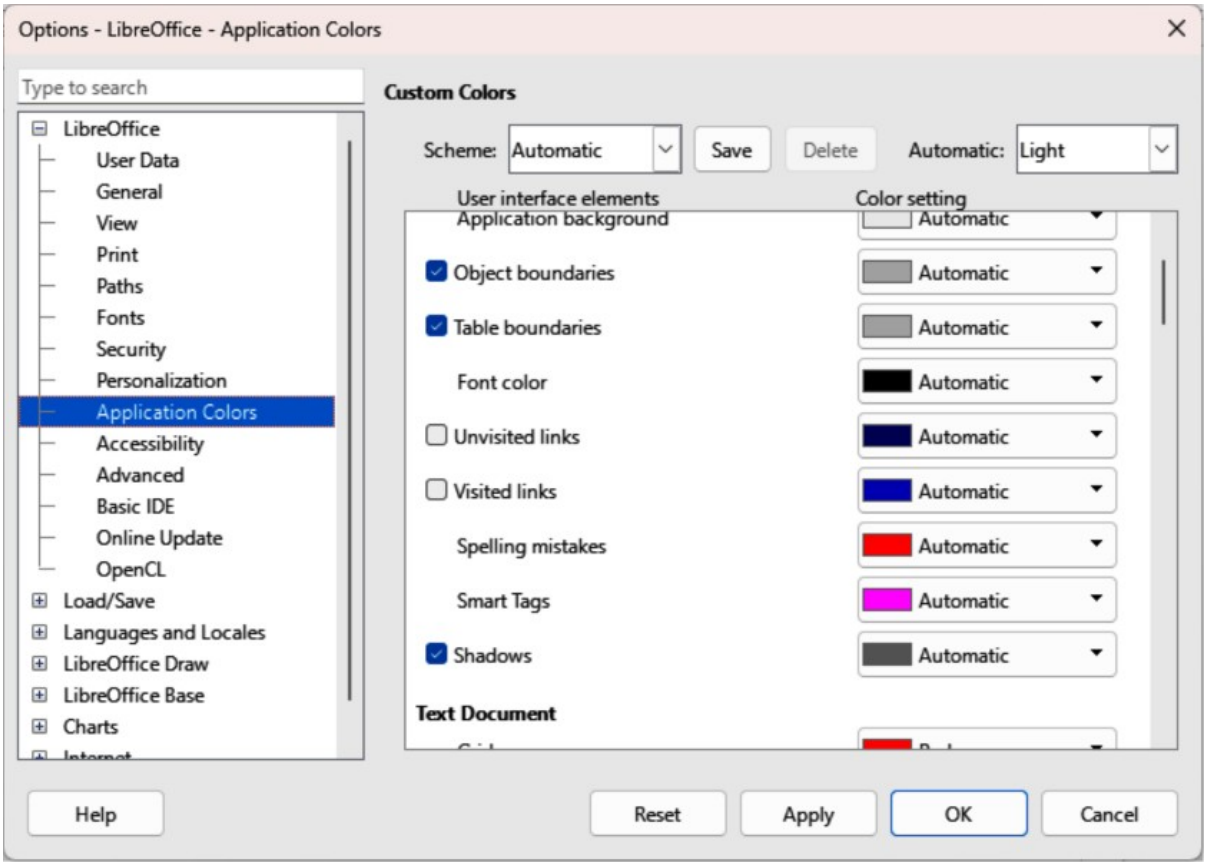

Figure 58: Options LibreOffice dialog — Application Colors page

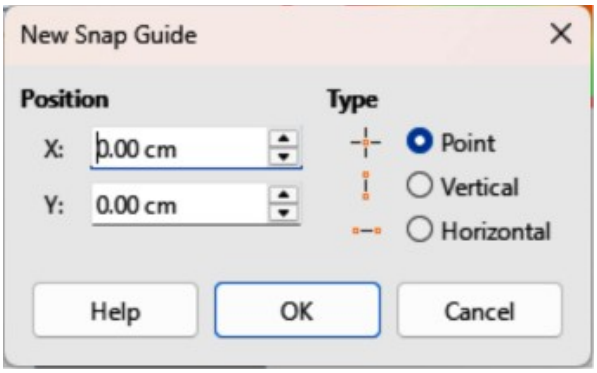

Figure 59: New Snap Guide dialog

Snap points and lines

Snap lines and snap points are not part of the grid, but are inserted to position an object at a specific place in a drawing. Snap lines can either be horizontally or vertically and appear as dashed lines. Snap points appear as small crosses with dashed lines. Snap points and snap lines do not appear in printed output.

Inserting snap points and snap lines

To insert a snap point or snap line, go to **Insert > Snap Guide** on the Menu bar to open the New Snap Guide dialog (Figure 59).

Position

Sets the position of a selected snap point or line relative to the top left page corner.

X:

Enter the amount of space required between the snap point or line and the page left edge.

Y:

Enter the amount of space required between the snap point or line and the page top edge.

Type

Specifies the type of snap object being inserted.

Point

Inserts a snap point.

Vertical

Inserts a vertical snap line.

Horizontal

Inserts a horizontal snap line.

Displaying snap points and lines

Use one of the following methods to display snap points and lines in a drawing:

- Go to **View > Snap Guides > Display Snap Guides** on the Menu bar.
- Click on **Display Snap Guides** in the Options toolbar.
- Right-click on a drawing and select **Snap Guides > Display Snap** Guides from the context menu.

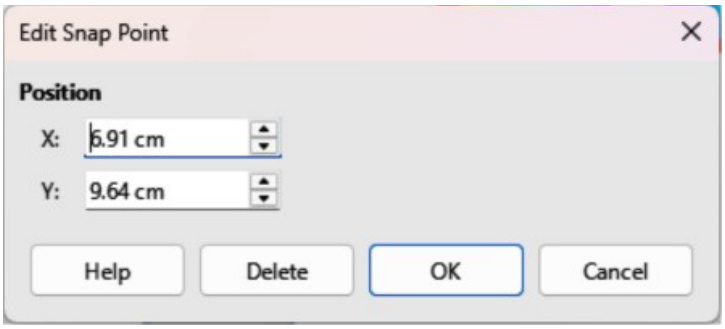

Figure 60: Edit Snap Point dialog

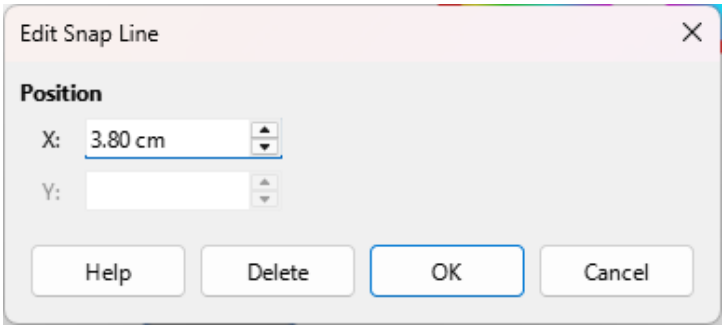

Figure 61: Edit Snap Line dialog

Editing snap points

1) Right-click on the snap point and select **Edit Snap Point** from the context menu to open the Edit Snap Point dialog (Figure 60).
2) Enter new X and Y coordinate settings for the snap point and click **OK**.
3) Alternatively, click and drag a snap point to a new position on a drawing.

Editing snap lines

1) Right-click on the snap line and select **Edit Snap Line** from the context menu to open the Edit Snap Line dialog (Figure 61).
2) Enter a new X coordinate setting for vertical snap lines or a new Y coordinate setting for horizontal snap lines and click **OK**.
3) Alternatively, click and drag a snap line to a new position on a drawing.

Deleting snap points and lines

- To delete a snap point, drag it back to a ruler or right-click on the snap point and select **Delete Snap Point** from the context menu.
- To delete a snap line, drag it back to the ruler or right-click on the snap line and select **Delete Snap Line** from the context menu.

Configuring snap range

To configure the snap range of when an object snaps to a position in the drawing:

1) Go to **Tools > Options > LibreOffice Draw > Grid** (macOS Libre**Office > Preferences > LibreOffice Draw > Grid**) on the Menu bar to open the Options LibreOffice Grid dialog.
2) Enter the number of pixels to set the proximity of when the object will snap into position in the *Snap range* box. The default setting is 5 pixels.

3) Click **OK** to set the new snap range and close the dialog.

Using Helplines

Helplines are a Draw function for positioning of objects. Helplines are displayed while the object is being moved. Helplines extend from the object edges to the rulers at the top and left side of a drawing and do not have a snap function (Figure 62).

1) Go to **Tools > Options > LibreOffice Draw > View** (macOS **LibreOffice > Preferences > LibreOffice Draw > View**) on the Menu bar to open the Options LibreOffice Draw View dialog (Figure 63).
2) Select *Helplines when moving option* or click *Helplines While Moving* in the Options toolbar.
3) Click **OK** to save the selection and close the dialog.

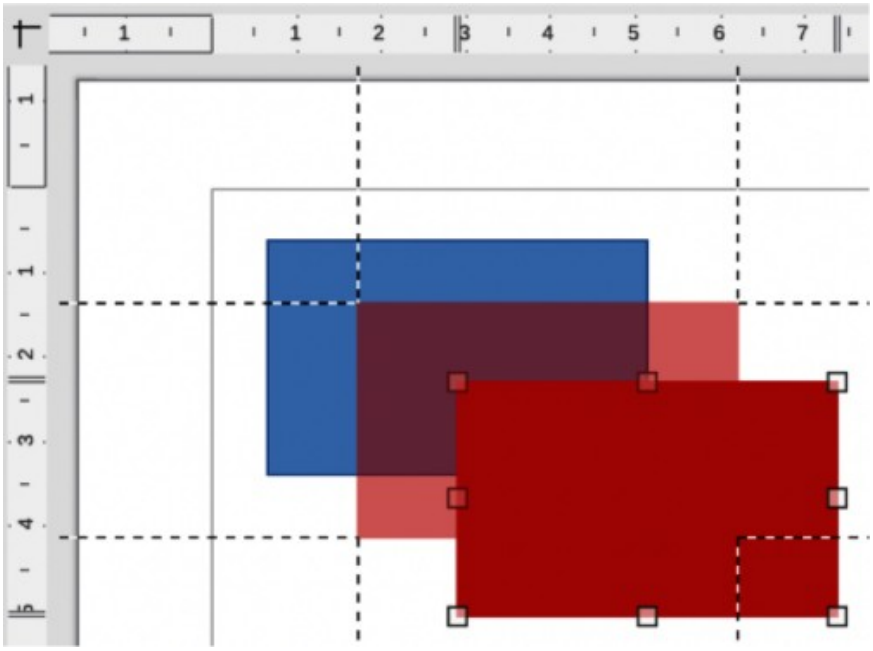

Figure 62: Example of using helplines when moving objects

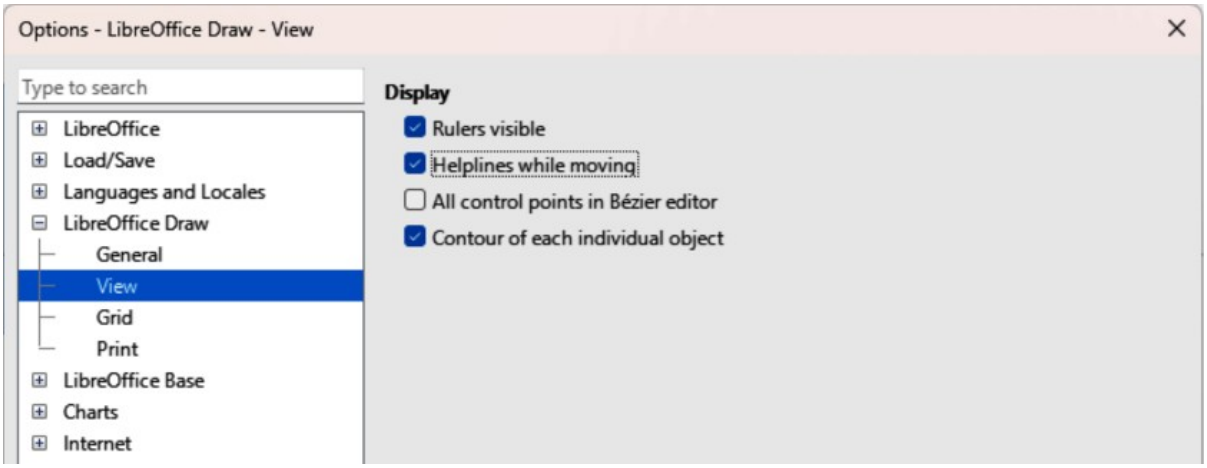

Figure 63: Options LibreOffice Draw View dialog

Changing object shape

Regular shapes

When creating regular shapes in a drawing, some shapes have one or more control dots displayed in a different color to the selection handles after selecting an object. When the cursor hovers over one of these dots, it changes shape. Click and drag a control dot to modify the object shape. For example, increasing corner radius of a rounded rectangle or square, changes the angles of an arc, and so on. Control dots have different functions according for each shape.

Note

After converting a regular shape to a curve or polygon, the shape of a regular shape can be changed and points can be edited. See “Curves and polygons” on page 70 and “Editing points” on page 71 for more information.

Basic shapes

The following basic shapes on the Basic Shapes subtoolbar (Figure 64), listed in Table 3, have control dots.

Figure 64: Basic Shapes subtoolbar

Table 3: Basic shapes with control dots

Basic Shapes	***Control dot description***
Rectangle, Rounded	Changes the curve radius that replaces the angled corners of a rectangle or square.
Square, Rounded	Changes the curve radius that replaces the angled corners of a rectangle or square.
Parallelogram	Changes the internal angles between the sides.
Trapezoid	Changes the internal angles between the sides.
Circle Pie	Changes the size of the filled sector.
Block Arc	Changes both internal diameter and size of the filled area.
Isosceles Triangle	Changes the shape and type of the triangle.
Hexagon	Changes the internal angles between the sides.
Octagon	Changes the internal angles between the sides.
Cylinder	Changes the perspective.
Cube	Changes the perspective.
Folded Corner	Changes the folded corner size.
Cross	Changes the thickness of the cross four arms.
Frame	Changes the frame thickness.
Ring	Changes the ring internal diameter.

Symbol shapes

The following symbol shapes on the Symbol Shapes subtoolbar (Figure 65), listed in Table 4, have control dots.

Figure 65: Symbol Shapes subtoolbar

Table 4: Symbol shapes with control dots

Symbol Shapes	***Control dot description***
Smiley Face	Changes the smile on the face.
Heart	Changes the symbol shape.
Sun	Changes the symbol shape.
Moon	Changes the symbol shape.
Prohibited	Changes the ring thickness and the diagonal bar.
Square Bevel	Changes the bevel thickness.
Octagon Bevel	Changes the bevel thickness.
Diamond Bevel	Changes the bevel thickness.
Double Bracket	Changes the bracket curvature.
Left Bracket	Changes the bracket curvature.
Right Bracket	Changes the bracket curvature.
Double Brace	Changes the bracket curvature.
Left Brace	Changes the brace curvature and the position of the point.
Right Brace	Changes the brace curvature and the position of the point.

Block arrows

The following block arrows on the Block Arrows subtoolbar (Figure 66), listed in Table 5, have control dots.

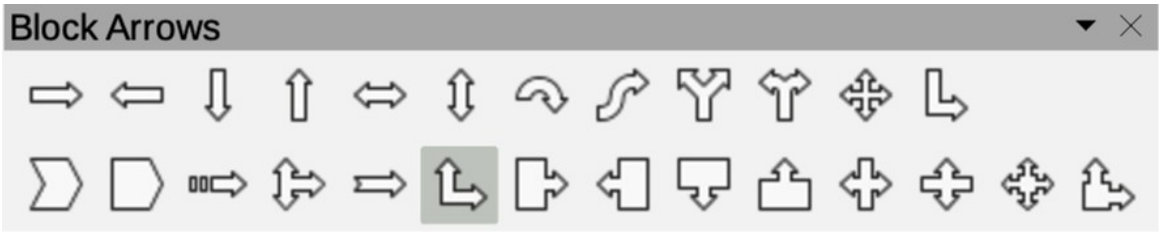

Figure 66: Block Arrows subtoolbar

Table 5: Block arrows with control dots

Block Arrows	***Control dot description***
Right Arrow	Changes the arrow shape and thickness.
Left Arrow	Changes the arrow shape and thickness.

Block Arrows	Control dot description
Down Arrow	Changes the arrow shape and thickness.
Up Arrow	Changes the arrow shape and thickness.
Left and Right Arrow	Changes the arrow shape and thickness.
Up and Down Arrow	Changes the arrow shape and thickness.
Circular Arrow	Changes the arrow shape and thickness.
4-way Arrow	Changes the arrow shape and thickness.
Chevron	Changes the angle between the sides and the shape.
Pentagon	Changes the angle between the sides and the shape.
Striped Right Arrow	Changes the arrow shape and thickness.
Up, Right and Down Arrow	Changes the arrow shape and thickness.
Notched Right Arrow	Changes the arrow shape and thickness.
Up and Right Arrow	Changes the arrow shape and thickness.
Right Arrow Callout	Changes the callout shape and thickness.
Left Arrow Callout	Changes the callout shape and thickness.
Down Arrow Callout	Changes the callout shape and thickness.
Up Arrow Callout	Changes the callout shape and thickness.
Left and Right Arrow Callout	Changes the callout shape and thickness.
Up and Down Arrow Callout	Changes the callout shape and thickness.
4-way Arrow Callout	Changes the callout shape and thickness.
Up and Right Arrow Callout	Changes the callout shape and thickness.

Callouts

For all callouts on the Callouts subtoolbar (Figure 67) use control dots to change length, position and angle of a pointer.

Figure 67: Callouts subtoolbar

Stars and banners

The following stars and banners on the Stars and Banners subtoolbar (Figure 68), listed in Table 6, have control dots.

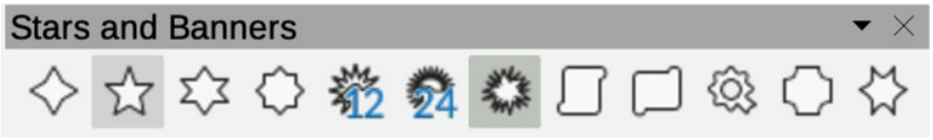

Figure 68: Stars and Banners subtoolbar

Table 6: Stars and banners with control dots

Stars and Banners	Control dot description
4-Point Star	Changes the star points thickness and shape.

Stars and Banners	*Control dot description*
8-Point Star	Changes the star points thickness and shape.
24-Point Star	Changes the star points thickness and shape.
Vertical Scroll	Changes the scroll width and shape.
Horizontal Scroll	Changes the scroll width and shape.
Doorplate	Changes the inward curvature of the corners.

Curves and polygons

Bézier curves

The editing of curves and polygons depends on the mathematics of Bézier curves[1]. Fully explaining Bézier curves goes beyond the scope of this Draw Guide. For more information on drawing and manipulating Bézier curves, see Chapter 11, Advanced Draw Techniques.

Editing a Bézier curve is the movement of points or tangents passing through a point. Each tangent has a control point at each end and a junction point where it meets a curve. The relative angle and distance between control points determines the curve shape. Figure 69 shows what happens to a square and moving only one point on the square.

Converting objects to curve or polygon

When changing the shape of an object and before modifying the points on an object, it must be converted to a curve or a polygon. Depending on what kind of shape and effect required, use one of the following methods to create a curve or a polygon:

- After selecting an object, go to **Shape > Convert** on the Menu bar and select either **To Curve** or **To Polygon**.
- Right click on an object and select **Convert > To Curve** or **To Polygon** from the context menu.

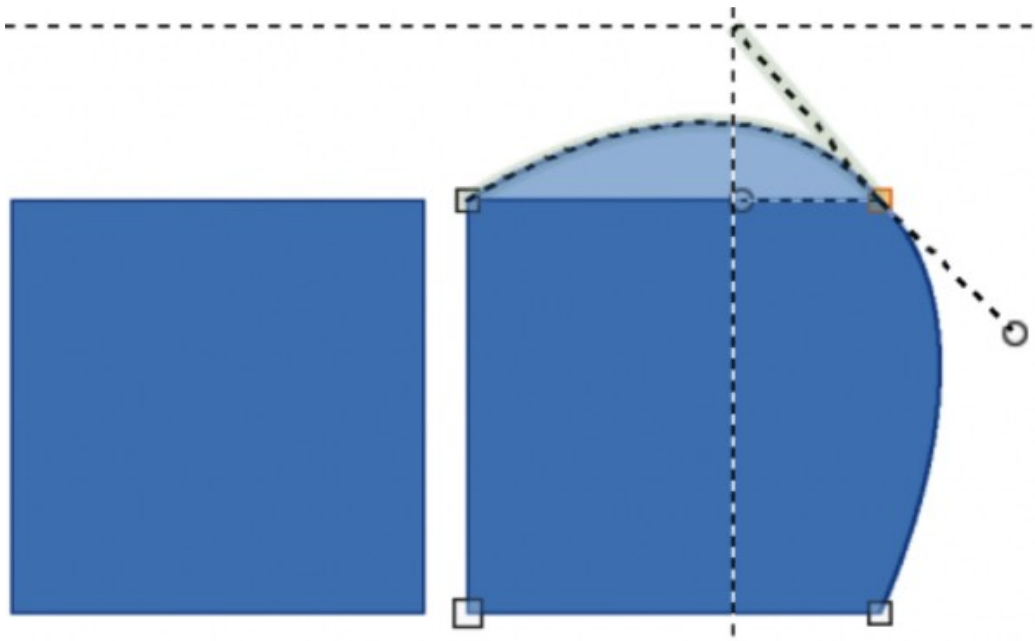

Figure 69: Example of creating different shapes using tangent points

1 Bézier curves were invented by Pierre Bézier, who developed the technique in the 1960s while working as an engineer for the Renault car manufacturer. The technology was intended to make modeling the surface of vehicles easier.

Figure 70: Edit Points toolbar

Editing points

Many different shapes can be created by moving either the point, or one or both of the round handle points at either end of the tangent, as shown in Figure 69. Points can be added, deleted, or points type changed using tools available on the Edit Points toolbar (Figure 70).

1) Convert a shape to a curve or polygon.
2) Select the converted object and then select the points editing mode using one of the following methods:
   - Go to **Edit > Points** on the Menu bar.
   - Click on **Toggle Edit Point Mode** on the Standard toolbar.
   - Right click on the converted object and select **Toggle Edit Point Mode** from the context menu.
   - Use the keyboard shortcut *F8*.
3) Click on an object point to change the object shape. The Edits Points toolbar opens and the tools become active when a point is selected. Tangents also appear attached to the selected point.
4) Use the various tools on the Edit Points toolbar to add, delete, or change the point type.
5) Click and drag a point to move the point and change object shape.
6) If the selected object is a curve, click on and drag the round points at the end of a tangent to change the object shape.
7) When satisfied with the shape, click outside of the object to cancel points editing mode and close the Edit Points toolbar.

Point types

The available tools on the Edit Points toolbar depend on the object and type of object point that has been selected.

Move Points

Activates a mode allowing movement of points. Click and drag the selected point to another location.

Insert Points

Activates the insert mode for inserting points. A point is inserted onto a selected object each time a click is made. The object also changes shape to include a new point into the object border. Inserted points are a smooth point.

Delete Points

Deletes points from the selected object. Select **Delete Points** and then click on a point to delete. To delete several points, hold down the *Shift* key as each point is selected for deletion, then click on **Delete Points**.

Convert To Curve

Converts a curve into a straight line, or a straight line into a curve. If a single point is selected, the curve before the point is converted. If two points are selected, the curve between both points is converted. If more than two points are selected and each time **Convert to Curve** is clicked, a different portion of the curve is converted. If necessary, round points are converted into corner points and corner points are converted into round points.

If a curve section is a straight line, the line end points have a maximum of one control point each. They cannot be modified to round points unless the straight line is converted back to a curve.

Close Bézier

Closes a curve by connecting the last point with the first point. This is indicated by an enlarged square.

Split Curve

Select the point or points, then click on **Split Curve**.

Corner Point

Converts a selected point or points into corner points. Corner points have two movable control points, which are independent from each other. A curved line does not go straight through a corner point, but creates a corner.

To create a corner point, a smooth or a symmetrical point must be inserted first and then converted to a corner point by clicking on **Corner Point**.

Smooth Transition

Converts a corner point, or symmetrical point into a smooth point. Both control points of a corner point are aligned in parallel and are only moved simultaneously. Control points may maybe different lengths, allowing variation in the degree of curvature.

Tangents

Before using tangents on an object, it must be converted to a curve. Tangents are only used on curves. If an object has been converted to a polygon and a tangent is added, the object is automatically converted to a curve.

Note

The tangent angle relates to an object shape that is changed by selecting a tangent control point at the end of a tangent and moving it. As the tangent angle is changed, the object shape changes in response.

Symmetric transition

Symmetric transition converts a corner or smooth point into a symmetrical point. Tangents have the same length and are aligned in a straight line, as shown in Figure 71. Tangents can only be moved simultaneously and the degree of curvature is the same in both directions.

1) Convert an object to a curve or polygon.
2) Select the converted object and open the Edit Points toolbar.
3) Select a point to change to a symmetrical point.
4) Click on **Symmetric Transition** in the Edit Points toolbar. The straight line on each side of the symmetric transition point is converted to a curve.

5) Click and drag a tangent control handle to change the object curvature and shape. Any change to one tangent is carried over symmetrically to the other tangent.

Smooth transition

Converts selected points into corner points. Tangents are aligned in a straight line and move simultaneously. Tangents can have different lengths with the curvature controlled by the longest tangent which is the largest curvature, as shown in Figure 72.

1) Convert the object to a curve or polygon.
2) Select the converted object and open the Edit Points toolbar.
3) Select the point to be changed to a symmetrical point.
4) Click on **Smooth Transition** on the Edit Points toolbar.
5) Click and drag a tangent control handle to change the object shape. This creates an asymmetric tangent with the largest curvature on the tangent longest side.

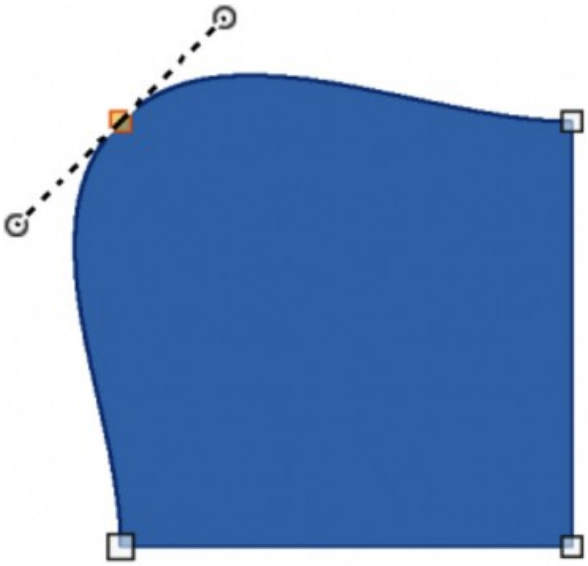

Figure 71: Example of symmetric transition

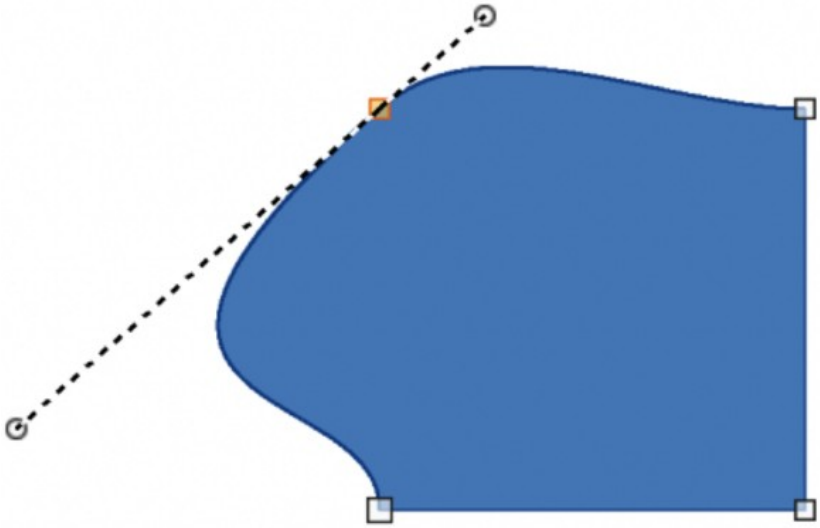

Figure 72: Example of smooth transition

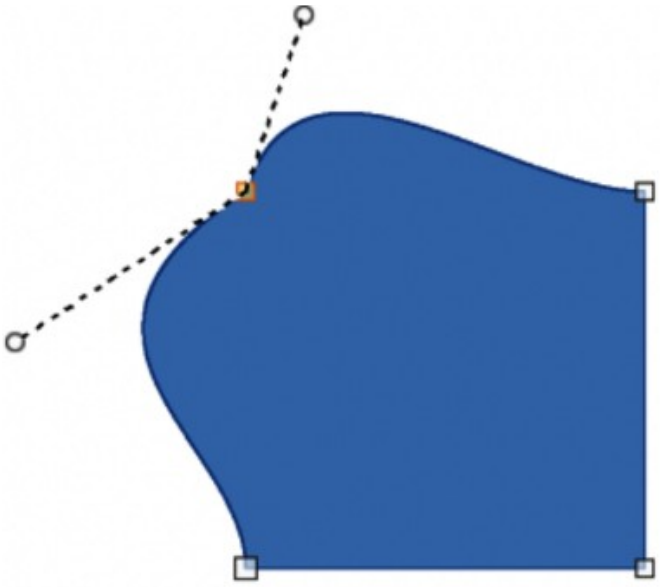

Figure 73: Example of changing corner point

Corner point

Converts a selected point or points into corner points. Corner points have two movable control points, independent from each other. It is possible to independently change the angle on each side of a tangent using the tangent central point as a corner point, as shown in Figure 73.

1) Convert the object to a curve or polygon.
2) Select the converted object and open the Edit Points toolbar.
3) Select the point to be changed to a corner point.
4) Click on **Corner Point** on the Edit Points toolbar.
5) Click and drag the end of a tangent to change its angle. Each tangent can be moved independently creating spikes and troughs in an object shape.

Points

Moving points

When moving points, the object border on both sides of the point follows the point movement changing the object shape. This also referred to as distorting objects.

1) Convert the object to a curve or a polygon.
2) Select the converted object and open the Edit Points toolbar.
3) Select the point to be changed to a symmetrical point.
4) Click on **Move Points** on the Edit Points toolbar.
5) Place the cursor on the selected point, then click and drag the point creating a new shape. Figure 74 illustrates how a different shape is created from a circle by dragging the left hand side point to the left.

Inserting points

A smooth point is inserted into a selected object each time there is a click. Clicking and dragging an inserted point changes object shape at the new point, as shown in Figure 75.

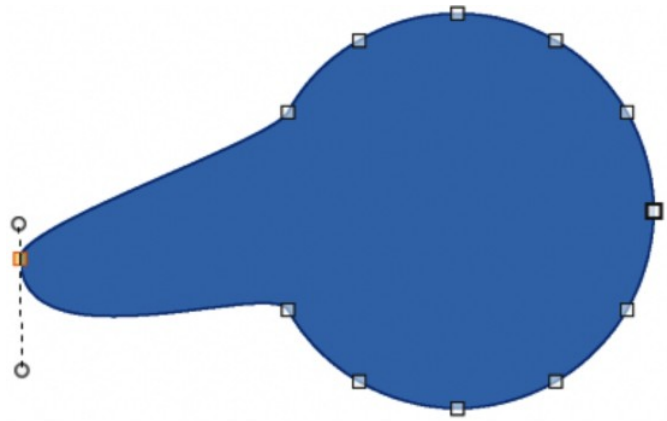

Figure 74: Example of moving points

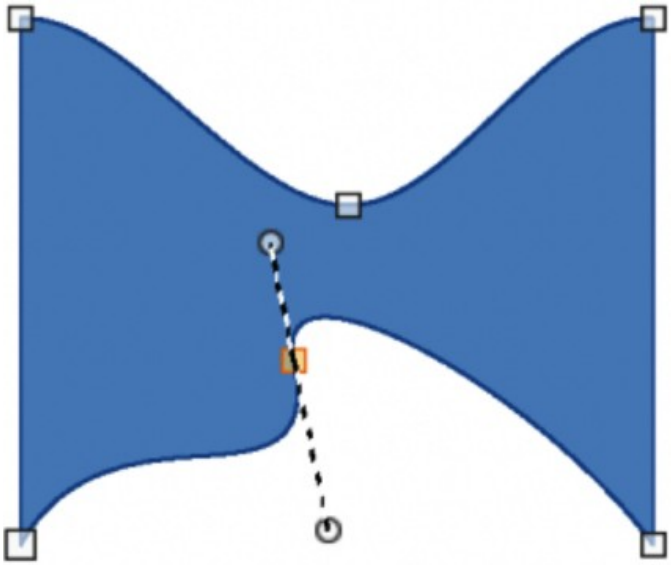

Figure 75: Example of inserting and moving points

1) Convert the object to a curve or a polygon.
2) Select the converted object and open the Edit Points toolbar.
3) Click on **Insert Points** on the Edit Points toolbar.
4) Click on the object border, or inside the object, to insert a point, then drag the cursor to move the inserted point and create a new shape.
5) Release the inserted point when the required shape is created.
6) If required, click and drag the end of a tangent to change its angle. Each tangent can be moved independently creating spikes and troughs in an object shape.

Deleting points

Figure 76 is an example of what happens when three points on the left were deleted from a circle. The left image is a the full circle and the right image is where three points have been deleted creating a new shape.

1) Convert the object to a curve or a polygon.
2) Switch the selected object into editing points mode and open the Edit Points toolbar.
3) To delete a single point, proceed as follows
   a) Select the point for deletion.

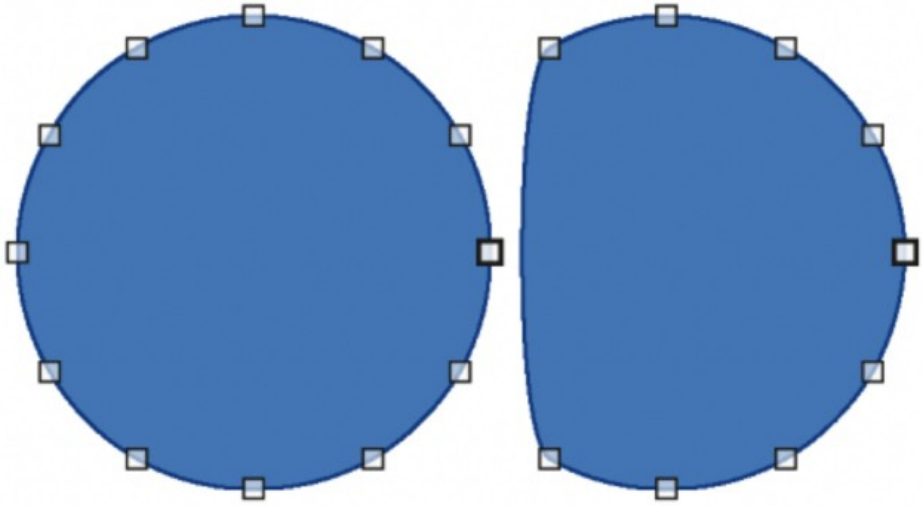

Figure 76: Example of deleting points

b) Click on **Delete Points** on the Edit Points toolbar.

4) To delete several points at the same time, proceed as follows:

a) Hold down the *Shift* key.

b) Select all the points for deletion.

c) Click on **Delete Points** on the Edit Points toolbar.

Eliminating points

Eliminate Points on the Edit Points toolbar only functions on lines with multiple points. These lines are created when a curve is converted to a line using **Convert to Curve**. An example of creating a straight line and eliminating points is shown in Figure 77.

1) Convert the curve to a curve or a polygon.

2) Switch the curve into editing points mode and open the Edit Points toolbar.

3) Select the curve with multiple points and convert to a line, see “Converting curves or lines” below.

4) Select the point or points on the line for elimination. The selected point is emphasized.

5) Select **Eliminate Points** on the Edit Points toolbar.

6) Accurately position the cursor over the selected point, then click and drag the selected point. As the cursor is dragged, a dotted line forms between the neighboring points.

7) When this dotted line appears to be a straight line between the neighboring points, release the selected point. The selected point is eliminated and a straight line now exists between the neighboring points.

Converting curves or lines

Curves and lines are converted using **Convert to Curve** on the Edit Points toolbar. When a curve is converted to a line, a straight line is created between selected points on a curve. When a line is converted to a curve, a curve is created between selected points on a line. An example of converting a curve to a line is shown in Figure 77.

1) Convert the object to a curve or a polygon.

2) Switch the object into editing points mode and open the Edit Points toolbar.

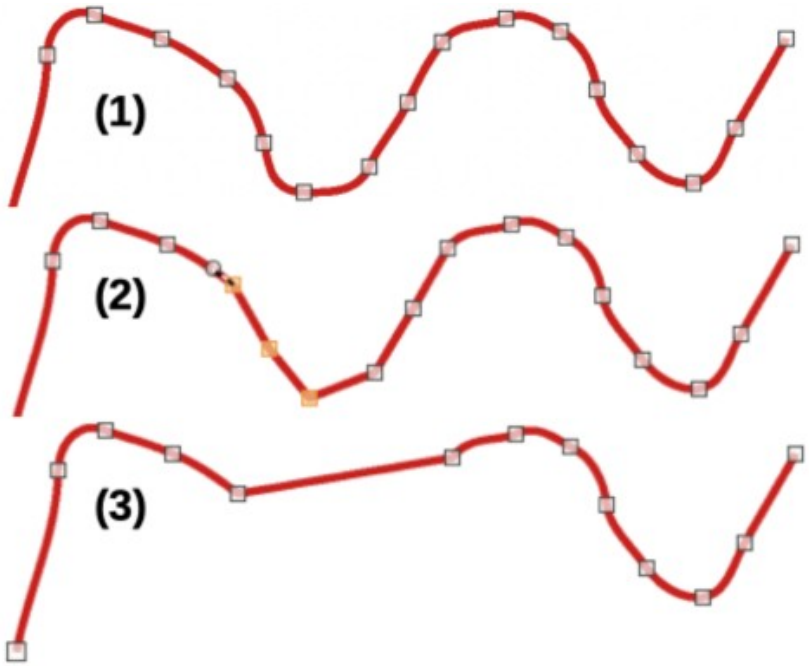

Figure 77: Example of converting curve to a line

(1) Curve with points displayed.
(2) Sections between points converted to lines.
(3) Points deleted to create a line section.

3) Select the points for converting from curve to line or from line to curve.

4) Click on **Convert to Curve** on the Edit Points toolbar. Between the selected points, a curve is converted into a line or a line is converted into a curve.

5) Delete a point on the converted line to create a straight line.

Splitting objects

1) Convert the object to a curve or a polygon.

2) Switch the object into editing points mode and open the Edit Points toolbar.

3) Select the point or points on the object where it is to be split. Keep the *Shift* key pressed down when selecting more than one point.

4) Click on **Split Curve** on the Edit Points toolbar to split or cut the object border at the selected point. If the object is filled, it will be emptied because the object border is no longer closed, as shown in Figure 78.

5) Deselect the object, then drag the cut segment and move it away from the original object.

Note

The point where the object was split is now larger than the remaining points visible on the object.

Closing objects

1) Select an open object (Figure 79).

2) Switch the object into editing points mode and open the Edit Points toolbar.

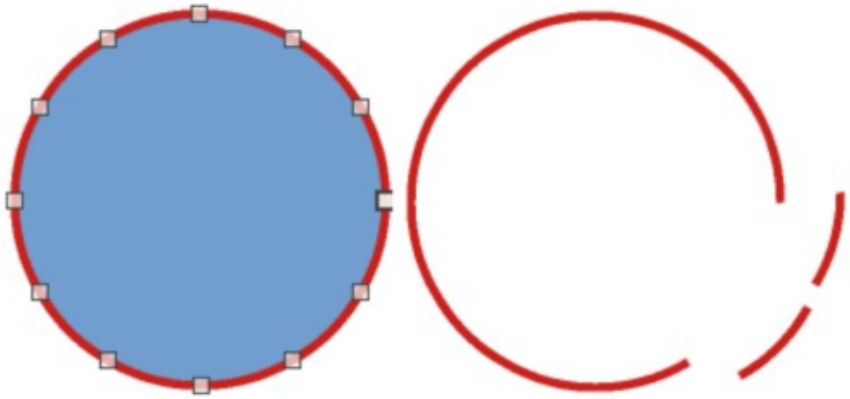

Figure 78: Example of splitting objects

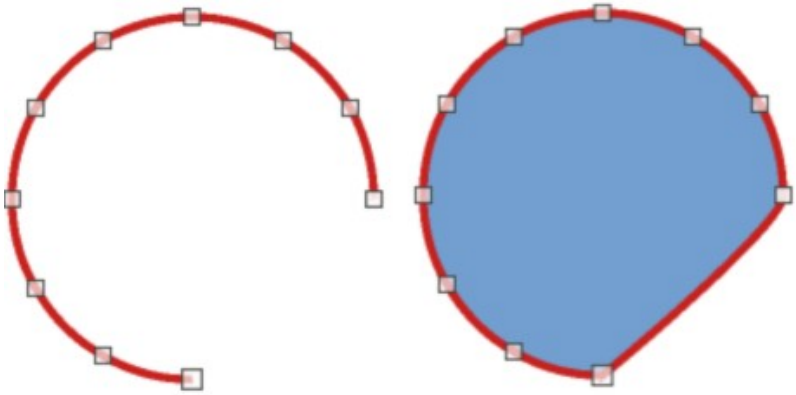

Figure 79: Example of closing objects

3) Select a point where the object has been split. Note that the start point of an object is larger than the other points visible on the object.

4) Click on **Close Bézier** in the Edit Points toolbar to close the object. If the open object was originally a closed and filled object, then the original color fills the object when it is closed.

Draw Guide 24.8

Chapter 4, Changing Object Attributes

Formatting lines

In Draw, the term **Line** indicates a freestanding segment (line), outer edge or border of a shape, or an arrow. The properties of a line that can be modified are style, width, color, and type of arrowhead.

Note

For more information on using color when formatting lines, line styles, arrows, and arrow styles, see “Working with area fills” on page 92.

Line and Filling toolbar

1) Select a line in the drawing.
2) If necessary, go to **View > Toolbars** on the Menu bar and select **Line and Filling** from the drop-down list to open the Line and Filling toolbar (Figure 80).
3) Click on the triangle ▼ to the right of **Line Style** and select a line style from one of the options in the drop-down list.
4) Either type the line width in the **Line Thickness** text box, or use the up and down arrows to change the line width.
5) Click on the triangle ▼ to the right of **Line Color** and select a color from one of the available color palettes.
6) If necessary, click on **Shadow** to add a shadow to the line. The shadow applied uses the settings set in the **Shadow** page of the Line dialog (Figure 85 on page 84).
7) If necessary, select from the **Select start and end arrowheads** for lines drop-down list the arrowhead type for each end of the line and change the line into an arrow. The left drop-down list adds an arrow head to the beginning of the line. The right drop-down list adds an arrow head to the end of the line.
8) Deselect the line to save the changes to the line.

Sidebar

1) Select a line in the drawing.
2) Click on **Properties** on the Sidebar to open the Properties deck.
3) Click on **Line** to open the **Line** panel (Figure 81).

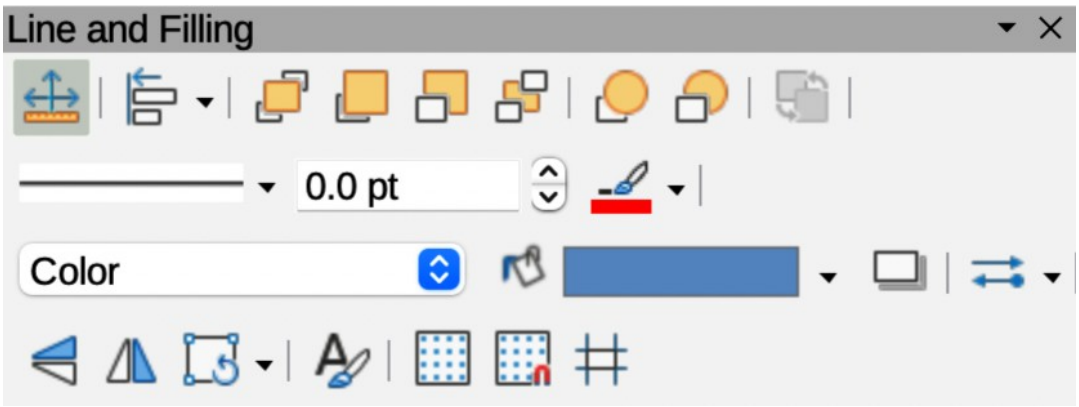

Figure 80: Line and Filling toolbar

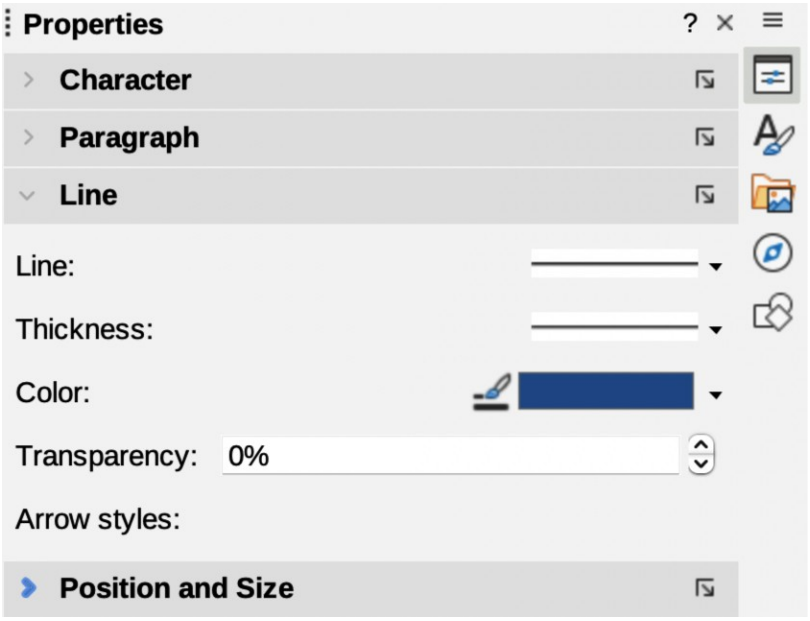

Figure 81: Line panel in Properties deck on Sidebar

4) In *Line*, click on **Select start and end arrowheads for lines** to open the drop-down lists for arrowhead types for each end of the line and change the line into an arrow.
   - Left drop-down list adds an arrowhead to the beginning of the line.
   - Right drop-down list adds an arrowhead to the end of the line.
5) In *Line*, select the type of line required from the **Line Style** drop-down list.
6) In *Thickness*, select a line width from the options available in the **Select the width of the line** drop-down list, or enter a width in the **Custom Line Thickness** text box.
7) In *Color*, click on the triangle ▼ to the right of **Line Color** and select a color from one of the available color palettes.
8) If required, in *Transparency* enter a percentage amount for line transparency.
9) If required, in *Corner style* select a corner style for the line from the drop-down list.
10) If required, in *Cap style* select a cap style for line ends from the drop-down list.
11) Deselect the line to save changes made to the line.
12) If necessary, click on **More Options** on the right of the title bar and open the Line dialog (Figure 82) for more control over formatting lines.

Line dialog

1) Make sure a line is selected on a drawing.
2) Open the Line dialog (Figure 82) using one of the following methods:
   - Go to **Format > Line** on the Menu bar.
   - Right-click on the line and select **Line** from the context menu.
   - Click on **More Options** on the right of the **Line** panel title on the Sidebar.
3) Format the line using the options available in the Line dialog. A preview box at the bottom of the dialog shows the effect of the changes on a line.
4) Click **OK** to save the changes and close the dialog.

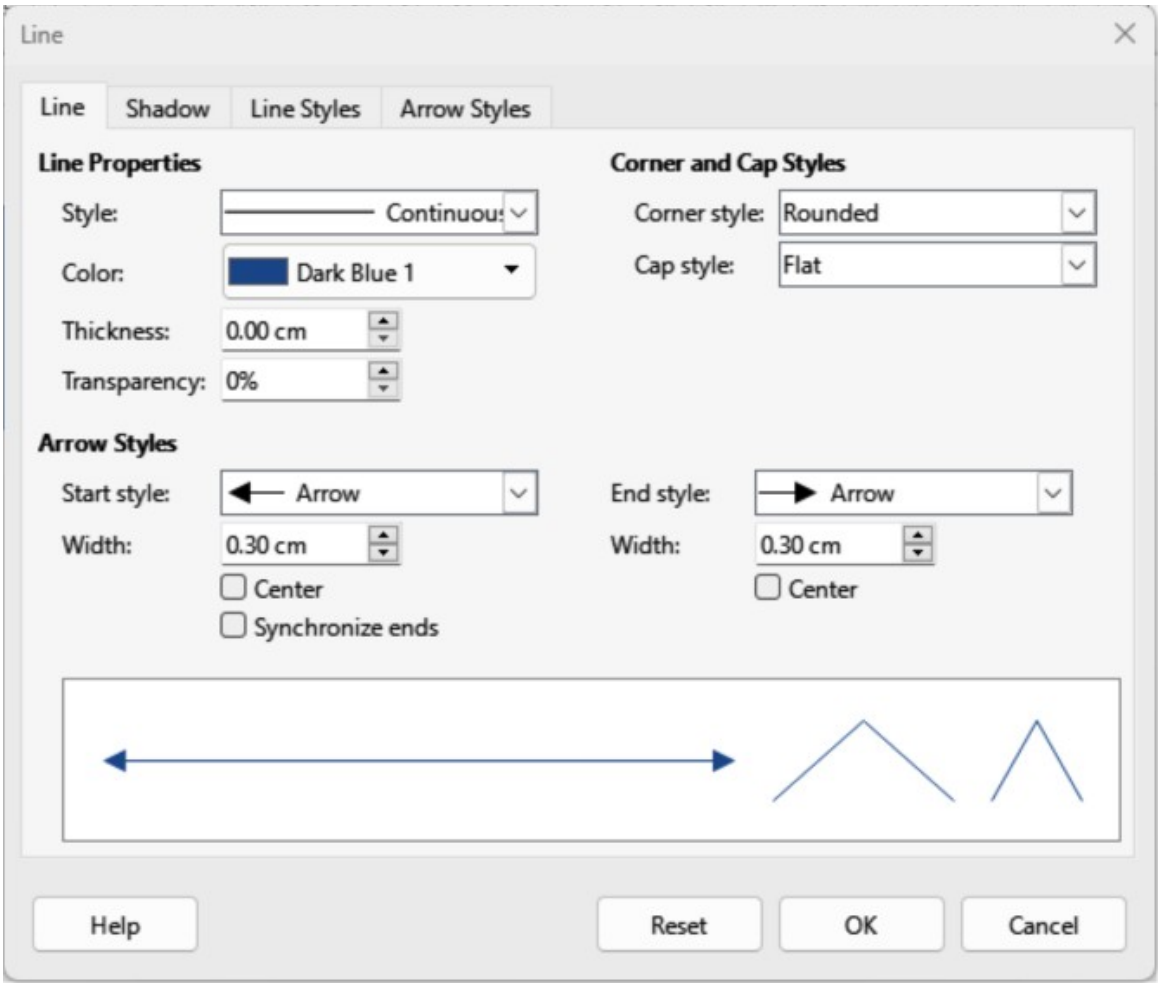

Figure 82: Line dialog — Line page

Line properties

The **Line** page in the Line dialog is where the basic parameters of the line are set. It is divided into three sections as follows.

Line properties

Style

Select a line style from the drop-down list.

Color

Select a predefined color from one of the available color palettes.

Thickness

Specifies the thickness of the line.

Transparency

Sets the transparency of a line. Figure 83 is an example of the effects of different percentages in transparency levels to lines when placed over an object.

Arrow Styles

This section is only applicable to individual lines and is not used for lines that are the borders of an object.

Start style

Select from the drop-down list an arrow style or arrowhead for the start of a line.

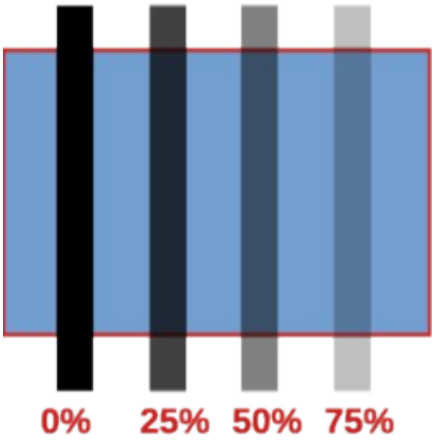

Figure 83: Example of line transparencies

Figure 84: Example of arrow endings

(1) Default ending (2) Centered ending

End style

Select from the drop-down list an arrow style or arrowhead for the end of a line.

Width

Specifies the thickness of the arrow endings.

Center

Moves the center of the arrow endings to the end point of the line. Figure 84 is an example of the effects of selecting this option.

Synchronize ends

Makes the two line ends identical.

Corner and Cap Styles

Determines how the connection between two segments of a line looks. To appreciate the difference between these styles, choose a thick line style and observe how the preview changes.

Corner style

Select the shape to be used at the corners of the line. For a small angle between lines, a mitered shape is replaced with a beveled shape.

Cap style

Select the style of the line end caps. The caps are added to inner dashes as well.

Line shadows

The **Shadow** page of the Line dialog (Figure 85) provides options to add and format a shadow for a selected line. The settings on this dialog page are also used for shadows applied to other objects. See “Working with shadows” on page 107 for more information.

To quickly apply a shadow to a line, click on **Shadow** on the Line and Filling toolbar. Using the Shadow tool creates a shadow using the settings from the **Shadow** page of the Line dialog.

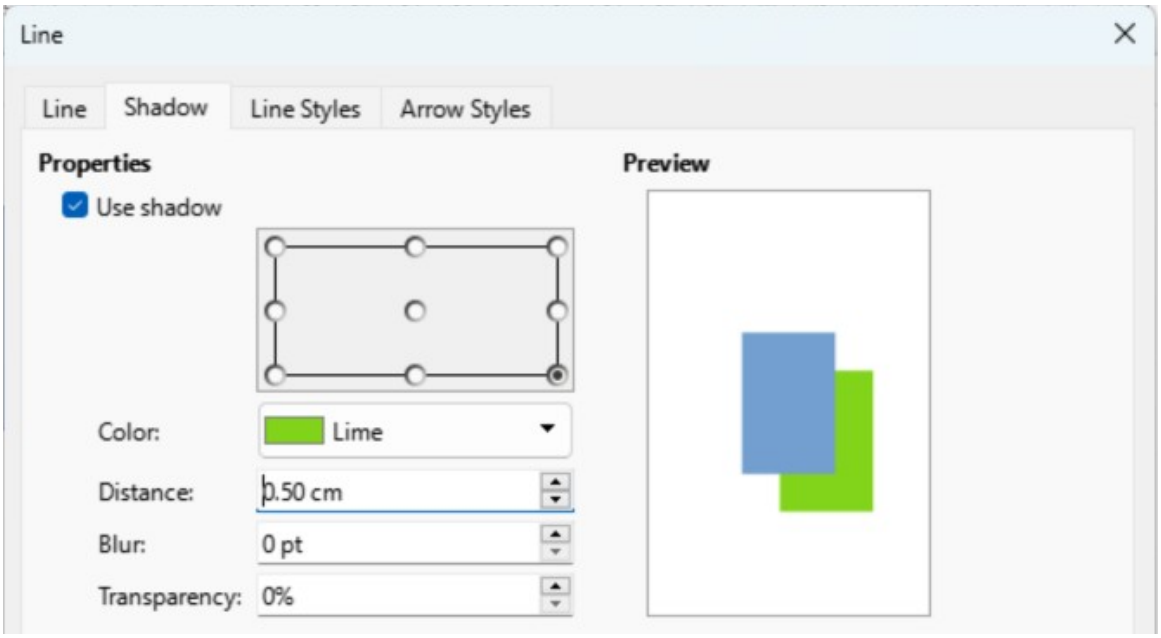

Figure 85: Line dialog — Shadow page

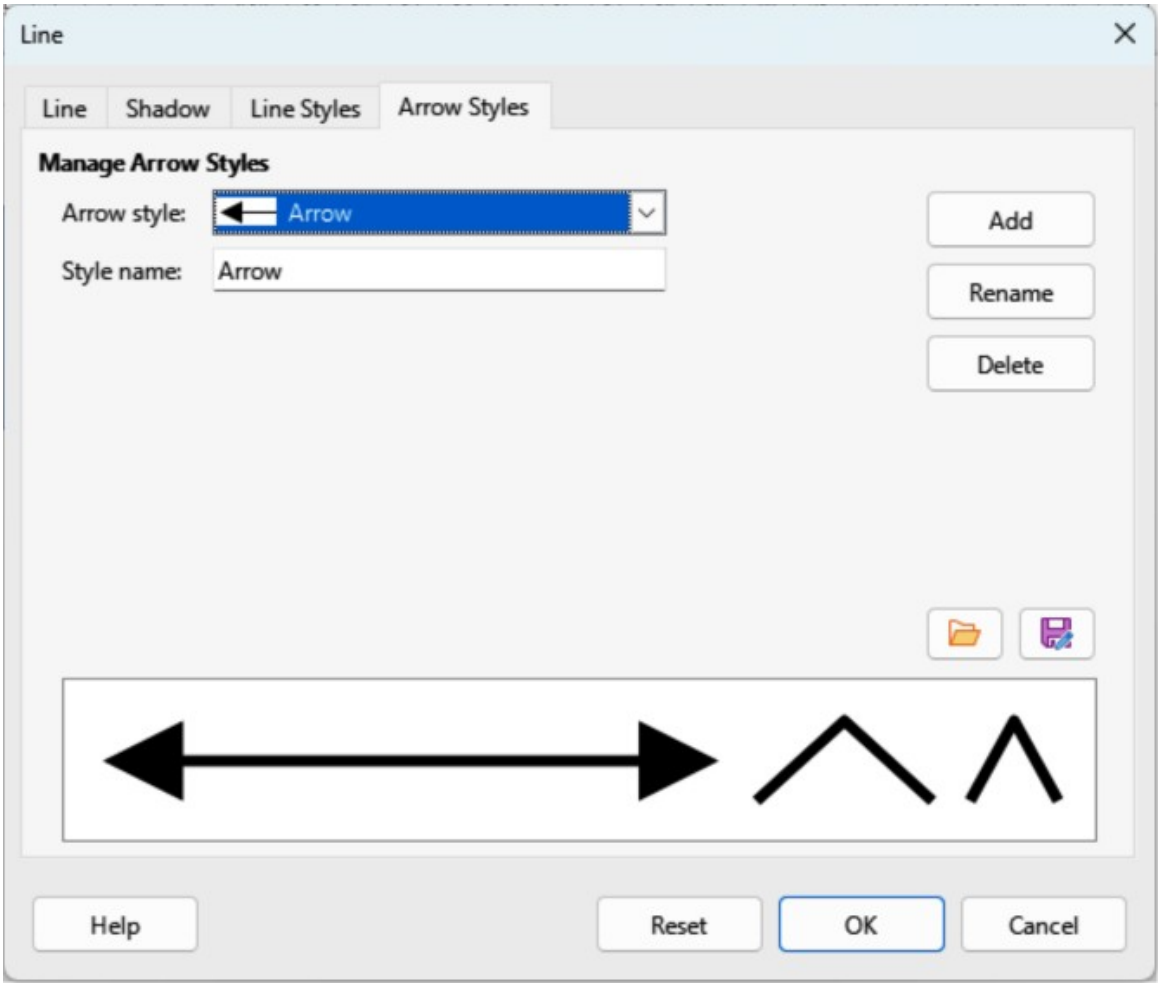

Figure 86: Line dialog — Line Styles page

Line styles

When creating several lines in a drawing with the same format, using line styles reduce the requirement of formatting individual lines. LibreOffice includes line styles for use drawings. Line styles can be created, saved, or deleted. The **Line Styles** page in the Line dialog (Figure 86) provides the options for using LibreOffice line styles and for creating, or changing line styles.

Creating line styles

1) Create a line in a drawing.
2) Open the Line dialog using one of the following methods:
   - Go to **Format > Line** on the Menu bar.
   - Right-click on the line and select **Line** from the context menu.
3) Click on **Line Styles** in the Line dialog to open the **Line Styles** page.
4) In the *Line style* drop-down list, select a pre-defined line style to use as a starting point for creating a line style. An example of the line style appears in the box at the bottom of the dialog page. This example changes as changes are made to a line style.
5) In the *Type* drop-down menus, select either **Dots** or **Dash**.
   - For one line type, select the same type in both *Type* boxes.
   - For alternate line types within a single line, select different types in each *Type* box.
6) In the *Number* boxes, specify the number of dots or dashes selected in *Type*. For different sized groups of dots or dashes, set a different quantity in each *Number* box.
7) In the *Length* boxes, specify the *Dash* length as a percentage of the line. The *Length* option is not available for *Dots*.
8) In the *Spacing* box, specify the spacing between the dashes and/or dots as a percentage of the line. The *Spacing* option is not available if the option *Fit to line width* is selected.
9) If required, select *Fit to line width* so that the new style fits the line width when used in a drawing.
10) For the current document only, create a new line style, or modify a line style as follows:
    a) Click on **Add** or **Modify** to open the Name dialog.
    b) Enter a unique name for the new or modified line style.
    c) Click on **OK** to save the new or modified line style and close the Name dialog.
11) Click on **OK** to close the Line dialog and the new line style is ready for use in the current drawing only.

Notes

To use the new or modified line style in other drawings, the line style must be saved using **Save Line Styles**.

When creating or modifying line styles, it is recommended to use a unique name for the line style. This prevents a LibreOffice line style from being overwritten and causing formatting problems in other drawings or documents that use LibreOffice line styles.

Saving line styles

1) Create a new line style, but do not close the Line dialog.

2) Click on **Save Line Styles** on the Line Styles page to open a file browser window at the correct location for saving line styles.

3) Enter a unique filename using the file extension SOD for the line style in the *Name* box.

4) Click on **Save** to save the line style and close the file browser window. The new line style is now available for use in new drawings and documents.

Importing line styles

LibreOffice line styles are installed during the installation of LibreOffice. Compatible line styles can also be imported and used in LibreOffice. Any line styles added to LibreOffice must use the file extension SOD for the style to be recognised by LibreOffice.

1) Create a line in a drawing.

2) Open the Line dialog and click on **Line Styles** to open the **Line Styles** page.

3) Click on **Load Line Styles** at the bottom right of the **Line Styles** page to open a file browser window at the correct location for line styles.

4) Select a style from the list of saved styles in the file browser window. The file extension for line styles is SOD.

5) Click **Open** to load the line style into LibreOffice. The line style becomes available for other LibreOffice drawings and documents.

6) Click **OK** to close the Line dialog and save any changes made.

Deleting line styles

1) Open the Line dialog and click on **Line Styles** to open the **Line Styles** page.

2) Select the line style for deletion from the *Line style* drop-down list.

3) Click on **Delete** and confirm the deletion by clicking on **Yes** in the confirmation dialog.

4) Click **OK** to close the Line dialog and save any changes made.

Note

When deleting line styles, make sure the line style is not used in another document. It is recommended to only delete line styles that have been created, or imported. DO NOT delete LibreOffice line styles. This prevents any formatting problems in other documents where a LibreOffice line style has been used.

Arrow styles

Use the **Arrow Styles** page (Figure 87) in the Line dialog to create new arrow styles, modify existing arrow styles, or load previously saved arrow styles.

Creating arrow styles

Any shape can be used as an arrowhead, but the shape must be convertible to a curve. A curve is something drawn without lifting a pencil. For example, a star can be converted to a curve, but a smiley face cannot.

1) Select a shape, or create a shape that can be converted to a curve for use as a new arrowhead. The part of the shape that is going to be point of the arrowhead must be at the top of the shape.

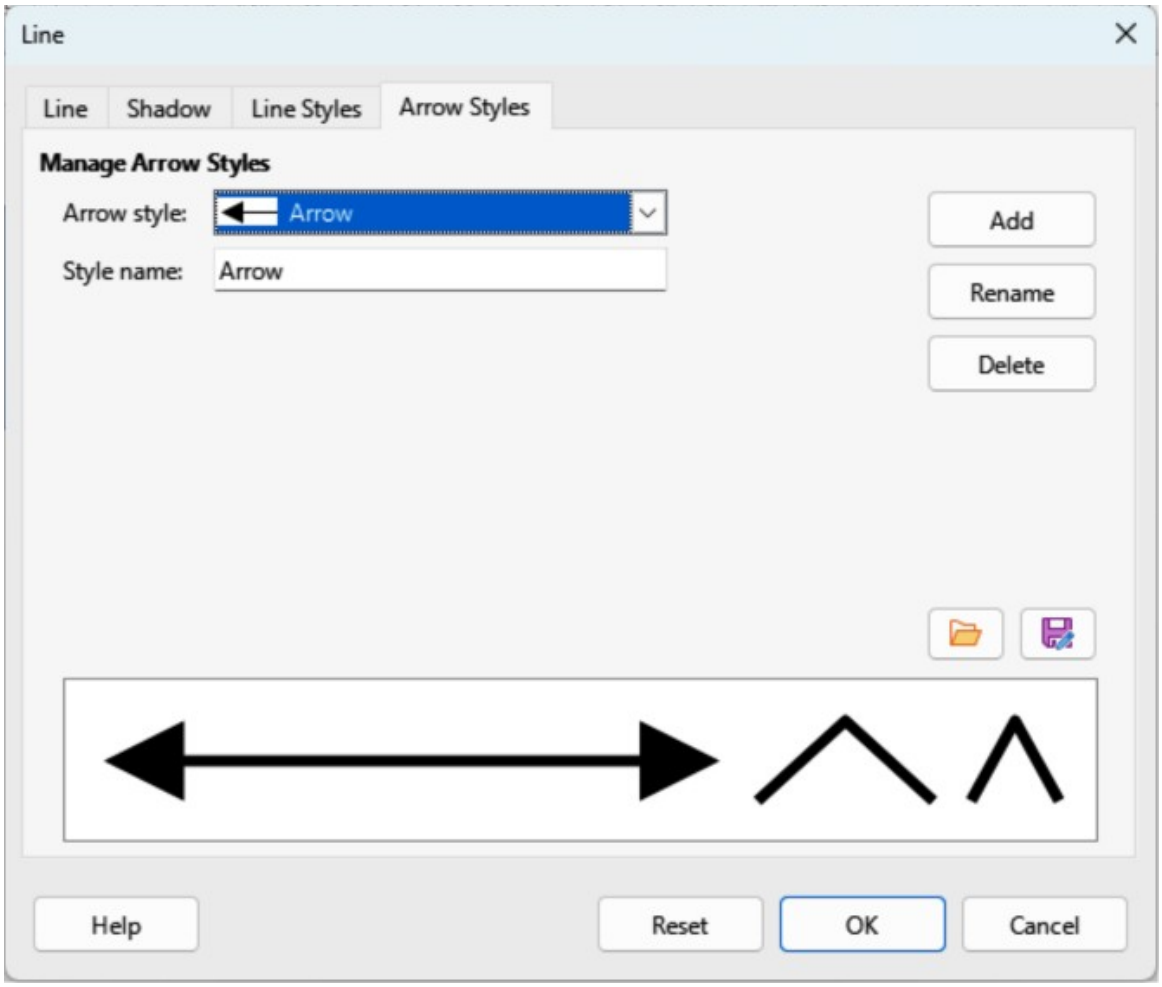

Figure 87: Line dialog — Arrow Styles page

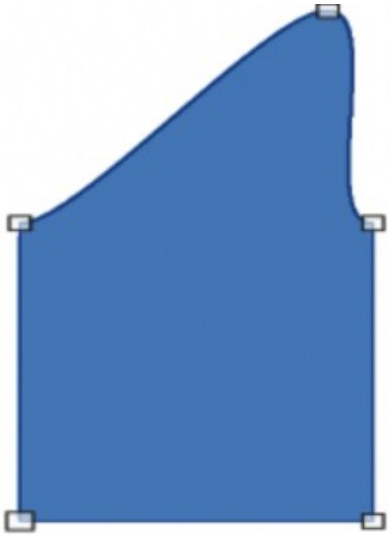

Figure 88: Example of creating an arrowhead

2) Select the shape and convert to a curve using one of the following methods:
   - Right-click on the shape and select **Convert > To Curve** from the context menu.
   - Go to **Shape > Convert > To Curve** on the Menu bar.
3) With the shape selected, open the **Arrow Styles** page in the Line dialog.

4) Click on **Add** and type a unique name for the new arrow style in the Name dialog that opens, then click **OK**. The new arrowhead style is displayed in the preview box of the Line dialog and is listed the bottom of the *Arrow style* drop-down list.

5) Click **OK** to save the changes and close the Line dialog. The new arrow style is available only in the current document.

Notes

The point in an arrowhead being created must be positioned at the top of the shape. If necessary, rotate the shape until the point is at the top of the shape as shown in Figure 88.

Some shapes cannot be used as an arrowhead. This is indicated by rectangular blocks appearing at each end of the line in the preview box on the Line Styles page in the Line dialog.

When creating an arrow style, it is recommended to use a unique name for the arrow style. This prevents one of the LibreOffice arrow styles from being overwritten and causing formatting problems in other drawings that use the LibreOffice arrow styles.

The new arrow style created is available only for use in the current drawing. To use the new arrow style in other drawings, the arrow style must be saved using the **Save Arrow Styles** option.

Saving arrow styles

1) Create a new arrow style as described in “Creating arrow styles” on page 86, but do not close the Line dialog.

2) Click on the **Save arrow styles** icon on the **Arrow Styles** page to open a file browser window at the correct location for saving arrow styles.

3) Enter a unique filename using the file extension SOE for the arrow style.

4) Click on **Save** to save the arrow style and close the file browser window. The new arrow style is now available for use in new documents.

Importing arrow styles

LibreOffice provides standard arrow styles when installed on a computer. However, compatible arrow styles can be imported and used in LibreOffice. Any arrow styles installed in LibreOffice must use the file extension SOE.

1) Open the Line dialog and click on **Arrow Styles** to open the **Arrow Styles** page.

2) Click on the **Load arrow styles** icon on the **Arrow Styles page** to open a file browser window at the correct location for arrow styles.

3) Select an arrow style from the list of saved styles in the file browser window

4) Click **Open** to load the arrow style into the drawing. The arrow style also becomes available for other LibreOffice documents.

5) Click **OK** to close the Line dialog and save any changes made.

Deleting arrow styles

1) Open the Line dialog and click on **Arrow Styles** to open the **Arrow Styles** page.

2) Select the arrow style for deletion from the *Arrow style* drop-down list.

3) Click on **Delete** and confirm the deletion by clicking on **Yes** in the confirmation dialog that opens.

4) Click **OK** to close the Line dialog and save any changes made.

Note

When deleting arrow styles, make sure the arrow style is not used in another document. It is recommended to only delete arrow styles that have been created, or imported. Do not to delete one of the LibreOffice predefined arrow styles to prevent formatting problems in other documents using LibreOffice arrow styles.

Area fills

Area fill refers to the inside of an object that has an unbroken border, for example a rectangle, circle, star, pentagon and so on. An area fill can be **None**, **Color**, **Gradient**, **Image**, **Pattern**, or **Hatch**, as shown by the examples in Figure 89. Also, an area fill can be partly or wholly transparent and throw a shadow.

The Area dialog provides tools and options for selecting and editing area fills. Area fills are also available in drop-lists in the Area panel in the Properties deck on the Sidebar and in Area Style/Filling on the Line and Filling toolbar, but have reduced options and different fill types.

Area dialog formatting

1) Make sure the object is selected in a drawing.

2) Open the Area dialog (Figure 90) using one of the following methods:

- Go to **Format > Area** on the Menu bar.
- Click on **Area** in the Line and Filling toolbar.
- Right-click on the selected object and select **Area** from the context menu.
- Click on **More Options** on the right of the **Area** panel title on the Sidebar.

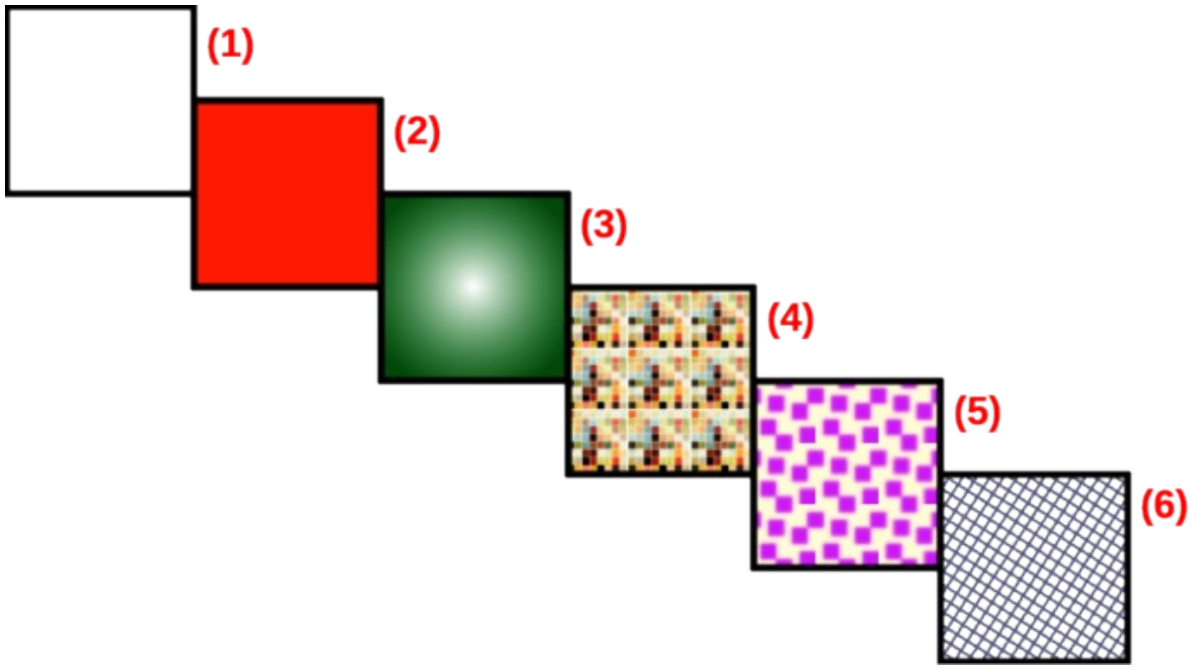

Figure 89: Example of area fill types

(1) None
(2) Color
(3) Gradient
(4) Image
(5) Pattern
(6) Hatch

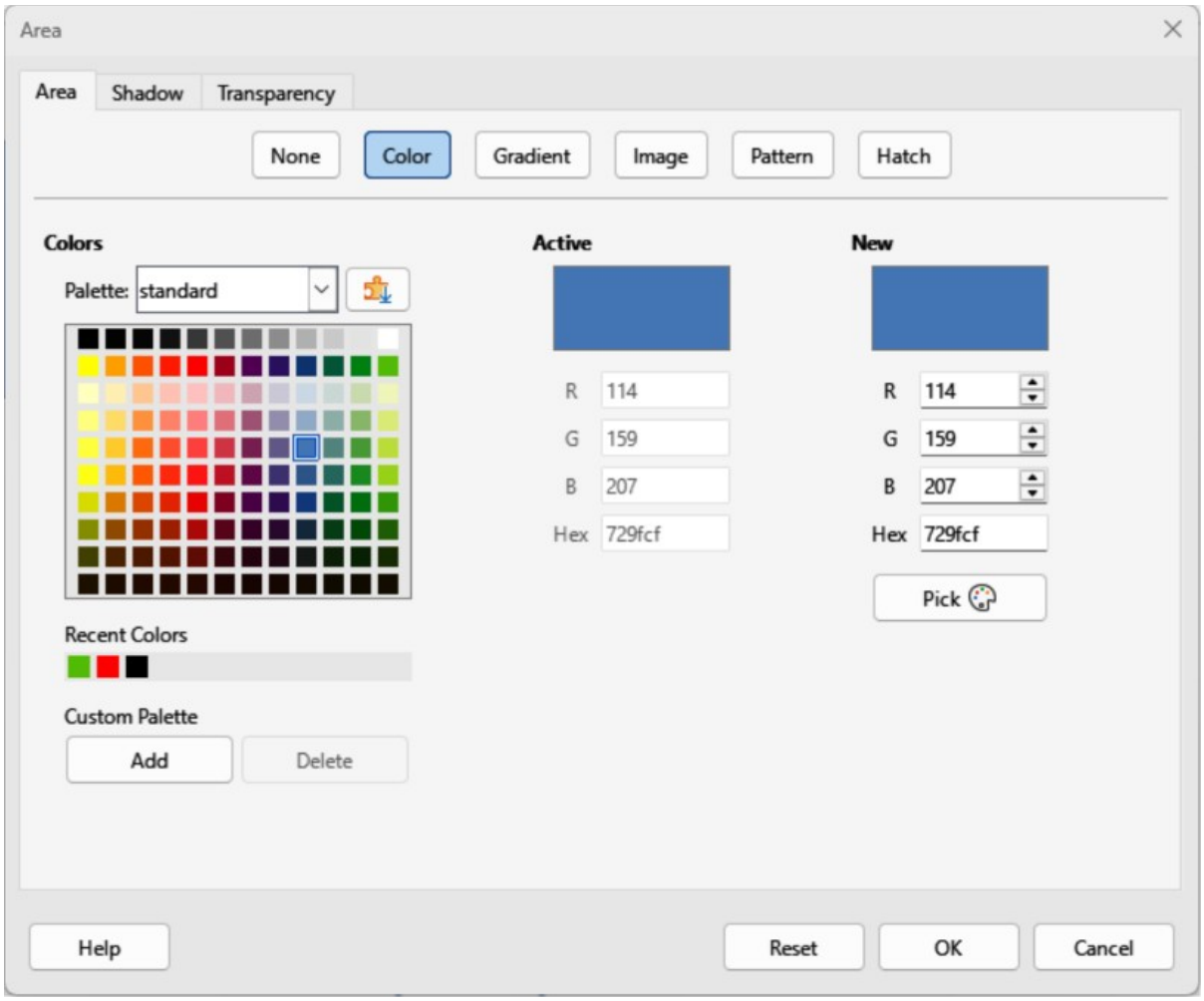

Figure 90: Area dialog — Area Color page

3) Click on **Area** to open the **Area** page.
4) Select the type of area fill from the available options (*None*, *Color*, *Gradient*, *Image*, *Pattern*, or *Hatch*).
5) Select the required area fill options that become available for each type of area fill selected.
6) Click **OK** to close the Area dialog and save the changes to the area fill.

Sidebar formatting

1) Make sure an object with an area fill is selected in a drawing.
2) Click on **Properties** on the Sidebar, then click on the down chevron ∨ on the left of the **Area** panel titlebar to open the **Area** panel (Figure 91).
3) Select a fill type (*None*, *Color*, *Gradient*, *Hatching*, *Bitmap*, or *Pattern*) from the *Fill:* drop-down list.
4) Select a fill effect from the options available for each fill type from the *Fill:* drop-down list.
5) If required, select a transparency type and a transparency percentage from the *Transparency* drop-down lists.
6) Deselect the object to save the changes to the area fill.

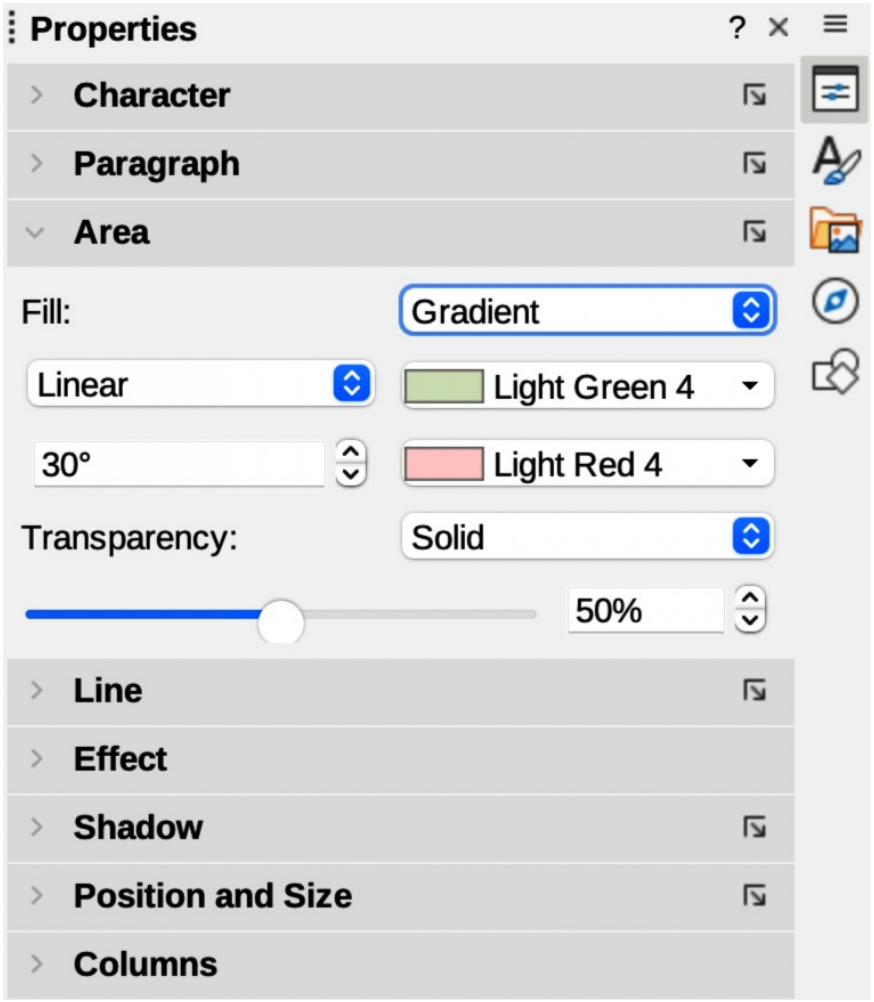

Figure 91: Area panel in Properties deck on Sidebar

Note

The type of transparency effect selected for an area fill changes the options available for a transparency in the **Area** panel on the Sidebar.

Line and Filling toolbar formatting

1) If Line and Filling toolbar (Figure 80 on page 80) is not open, go to **View > Toolbars > Line and Filling** on the Menu bar.
2) Select an object so that the selection handles are displayed.
3) Select a fill type (*None*, *Color*, *Gradient*, *Hatching*, *Bitmap*, or *Pattern*) from the **Area Style/Filling** drop-down list.
4) Select a fill effect from the options available for each fill type from the drop-down list. The fill effects available change for each fill type selected.
5) Deselect the object to save the changes to the area fill.

Working with area fills

Note

The following instructions for area fills use the Area dialog as the main method of selecting and editing an area fill. The tools and options available in the **Area** panel in the Properties deck on the Sidebar and on the Line and Filling toolbar are similar, but have reduced options and different names.

Color fills

Selecting color fill

1) Make sure the object is selected in a drawing.
2) Open the **Area** page on the Area dialog (Figure 90 on page 90), then click on **Color** to open the options available for a color fill.
3) In **Colors**, select the required palette from the available options in the *Palette* drop-down list.
4) Click on the color required in the selected palette. All color fills available are solid colors. The **Active** preview box shows the present color fill of a selected object. After selecting a color, a preview of the selected color appears in the **New** preview box.
5) Alternatively, use one of the following methods to select a color.
   – Enter the individual RGB values, on a 0 to 255 scale, in the appropriate text box.
   – Enter the *Hex* number of a color in the *Hex* text box.
   – If a color has been used before, then select the required color from the colors available in *Recent Colors*.
6) To revert back to the original color, click on **Reset** to remove any changes made.
7) Click **OK** to close the Area dialog and save the changes.

Creating custom colors using Area dialog

1) Select a filled object to create a color.
2) Open the Area dialog and click on **Area** to open the **Area** page, then click on **Color** to open the options available for a color fill.
3) Create a custom color using one of the following methods:
4) Specify the values of Red (R), Green (G), and Blue (B) on a 0 to 255 scale.
5) Click on **Pick** to open the Pick a Color dialog (Figure 92), see “Creating custom colors using Pick a Color dialog” below.
6) Click on **Add** in *Custom Palette* and enter a name for the color in the Name dialog that opens.
7) Click **OK** to close the Name dialog and the color is added to *Custom Palette*.
8) Click **OK** to close the Area dialog and save the changes. The new custom color appears as a fill in the selected object and is available for use in other drawings or documents.

Creating custom colors using Pick a Color dialog

1) Select a filled object to create a color.

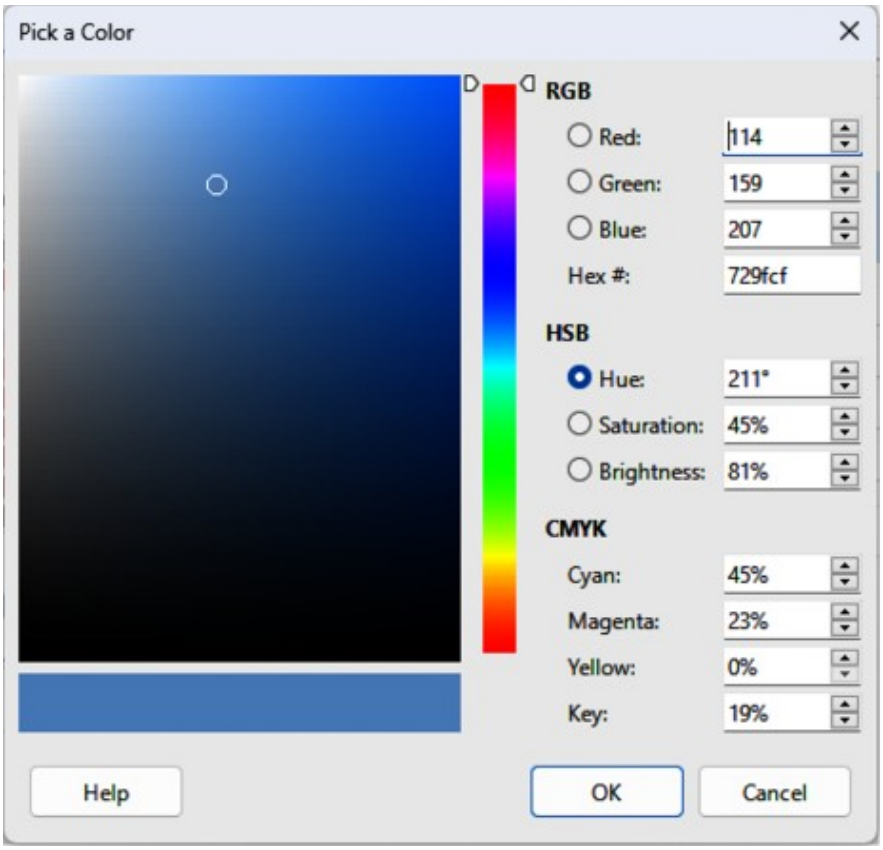

Figure 92: Pick a Color dialog

2) Open the Pick a Color dialog (Figure 92) using one of the following methods:

- Click on **Pick** on the **Color** page of the Area dialog.
- Click on the triangle ▼ next to **Fill Color** in the **Area** panel of the Properties deck on the Sidebar and select *Custom Color*.
- Click on the triangle ▼ next to **Fill Color** on the Line and Filling toolbar and select *Custom Color*.

3) Create a custom color using one of the following methods.

- Select a color range from the colored bar, then, using the cursor, move the target in the colored box until the cursor is on the color required.
- Enter values for *Red (R)*, *Green (G)*, and *Blue (B)* in the RGB text boxes.
- Alternatively, if known, enter the *Hex#* number in the text box. Hex numbers are normally used when a specific color has been created for a company logo or company name.
- Alternatively, enter values for *Hue (H)*, *Saturation (S)*, and *Brightness (B)* in the HSB text boxes. HSB values do not change the color, but how a color looks.
- Alternatively, enter values for *Cyan (C)*, *Magenta (M)*, *Yellow (Y)*, and *Key (K)* (black) in the CMYK text boxes.

Note

A preview of the color being created is shown on the left side of the original color box below the color selection box. Changing one set of color values also changes the color values in the other sets of color values.

4) Click **OK** to close the Pick a Color dialog and save the changes.

5) Click on **Add** in *Custom Palette* and enter a name for the color in the Name dialog that opens.

6) Click **OK** to close the Name dialog and the color is added to *Custom Palette*.

7) Click **OK** to save the changes and close the Area dialog. The new color appears as a fill in the selected object and is available for use in other drawings or documents.

Deleting custom colors

1) Select a filled object that uses the color fill for deletion.

2) Open the Area dialog using one of the following methods:

   – Go to **Format > Area** on the Menu bar.

   – Right-click on the object and select **Area** from the context menu.

   – Click on **More Options** on the right of the **Area** panel title on the Sidebar.

3) Click on **Area**, then click on **Color** to open the **Color** page.

4) In **Colors**, select **Custom** from the *Palette* drop-down list.

5) Select the color for deletion and click on **Delete**. There is no confirmation given when deleting a color.

6) Click **OK** to save the changes and close the Area dialog.

Note

Only custom colors available in the custom palette can be deleted using the Area dialog. Colors available in the default LibreOffice color palettes cannot be deleted.

Gradient fills

Several predefined gradients are included when LibreOffice is installed. It is recommended to create custom gradients that match requirements rather than modifying any predefined gradients. Predefined gradients may have been used in other objects in a drawing or other documents.

Custom gradients are saved with a unique name allowing the custom gradient to be used in other drawings or documents. Custom gradients are placed at the end of the gradients displayed in the **Gradient** box on the **Gradient** page of the Area dialog (Figure 93).

Selecting gradient fills

The following procedure to select a gradient for an area fill uses the Area dialog. Using the tools on the Line and Filling Toolbar, and the **Area** panel in the Properties deck on the Sidebar is a similar procedure, but the available options are reduced.

1) Make sure the object to be filled is selected in a drawing.

2) Open the Area dialog and click on **Area** to open the **Area** page, then click on **Gradient** to open the options available for a gradient fill.

3) In **Gradient**, select the required gradient from the list of available gradients and the gradient appears in **Preview**.

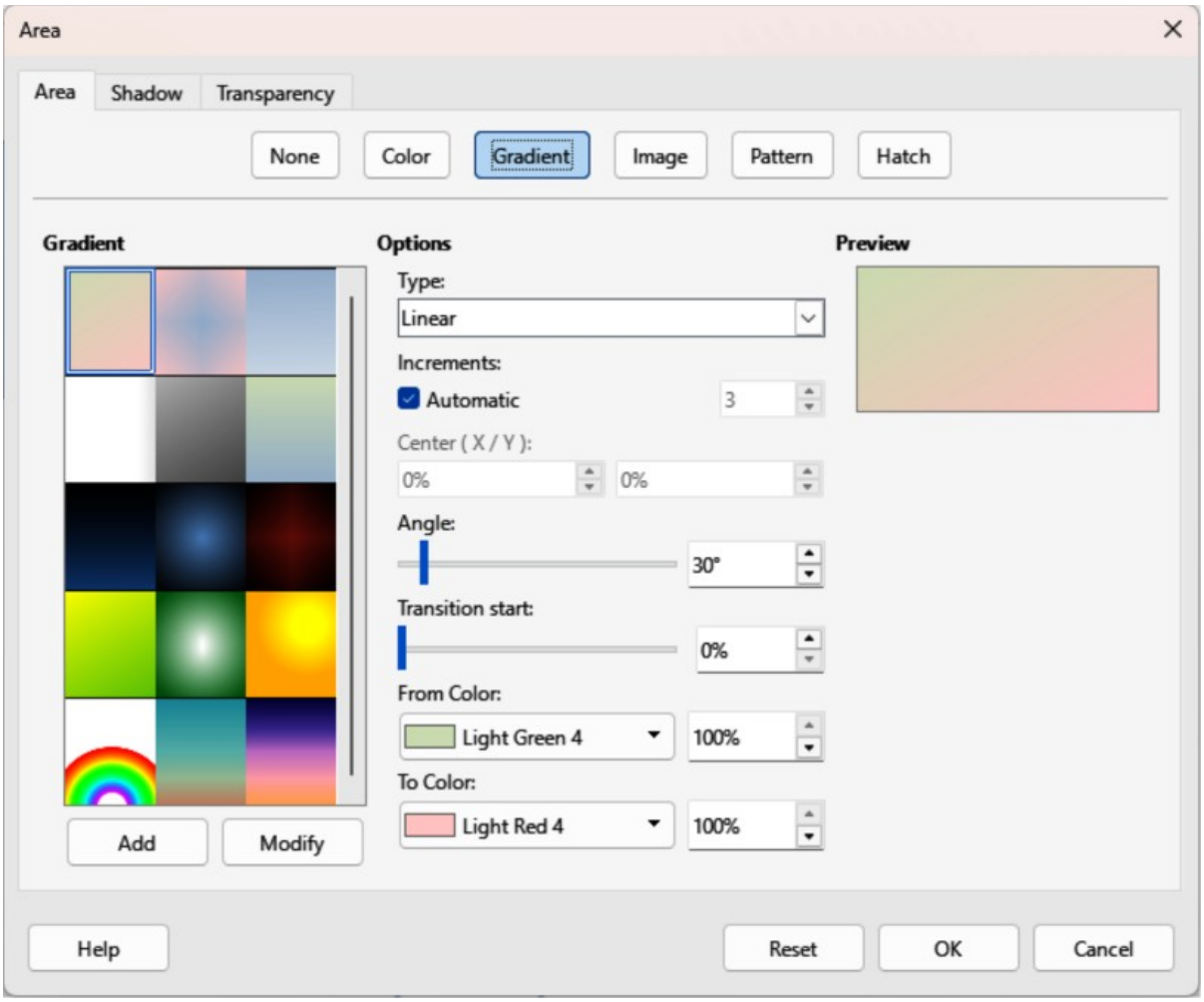

Figure 93: Area dialog — Area Gradient page

4) To override the default gradient transition of a selection, deselect *Automatic* in **Options** and then enter the values for *Type*, *Increment*, *Center*, *Angle*, *Border*, *From Color* and *To Color* to modify the gradient to the requirements. As changes are made, the gradient displayed in **Preview** also changes indicating how the gradient will look. For more information on gradient options, see Table 7: Gradient options.

5) Click **OK** to close the Area dialog and save the changes. The gradient area fill then appears in the selected object.

Note

Selecting and modifying a gradient only allows the gradient to be used in the drawing being created. If a modified gradient is to be used in other drawings or documents, then create a custom gradient and save it with a unique name. See “Creating custom gradients” on page 96.

Table 7: Gradient options

Gradient property	***Meaning***
Linear gradient	The color transitions from the starting color to the end color in a straight line.
Axial gradient	The color transitions from the starting color to the end color from the object center to the object edges in two opposite directions.

Gradient property	*Meaning*
Radial gradient	The color transitions from the starting color to the end color in a circular pattern.
Ellipsoid gradient	The color transitions from the starting color to the end color in an elliptical pattern.
Quadratic gradient	The color transitions from the starting color to the end color from the object edges to the object center in four directions.
Square gradient	The color transitions from the starting color to the end color from the object edges to the object center in a square pattern.
Increment	Enter the number of steps for blending the two colors of the gradient. By default this is set to Automatic.
Center X	For Radial, Ellipsoid, Square and Rectangular gradients, modify these values to set the horizontal offset of the gradient center.
Center Y	For Radial, Ellipsoid, Square and Rectangular gradients, modify these values to set the vertical offset of the gradient center.
Angle	For all gradient types, modifies the angle of the gradient axis.
Border	Increase this value to make the gradient start further away from the border of the shape.
From Color	The start color for the gradient. In the edit box enter the intensity of the color: 0% corresponds to black, 100% to the full color.
To Color	The end color for the gradient. In the edit box enter the intensity of the color: 0% corresponds to black, 100% to the full color.

Creating custom gradients

To use a modified gradient in other drawings or documents, a custom gradient has to be saved with a unique name.

1) Make sure the object is selected in a drawing.
2) Open the Area dialog and click on **Area** to open the **Area** page, then click on **Gradient** to open the options available for a gradient fill.
3) Select a gradient and modify it using the options given in Table 7: Gradient options. As changes are made, the gradient displayed in **Preview** also changes indicating how the modified gradient looks.
4) Click on **Add** to open a Name dialog.
5) Enter a unique name for the new gradient, then click **OK** to close the Name dialog. The custom gradient is placed at the end of the gradients displayed in **Gradient** and becomes available for use in other drawings and documents.
6) Click **OK** to close the Area dialog and save the changes.

Modifying custom gradients

1) Make sure the object is selected in a drawing.
2) Open the Area dialog and click on **Area** to open the **Area** page, then click on **Gradient** to open the options available for a gradient fill.
3) Select a custom gradient in **Gradient**. Custom gradients appear below the predefined gradients in **Gradient**.

4) Enter the new values for the gradient options that need to be changed. See Table 7: Gradient options for more information on gradient options. Depending on the type of gradient selected, some options may not be available.

5) If necessary and to revert back to the original gradient, click on **Reset** and any changes made are removed.

6) Click on **Modify** to permanently change the selected custom gradient. There is no confirmation given when modifying a custom gradient.

7) Click **OK** to close the Area dialog and save the changes.

Note

Using the **Modify** option on the **Gradient** page in the Area dialog permanently changes a gradient and cannot be undone. It is recommended to only modify custom gradients and not the default LibreOffice gradients.

Renaming gradients

1) Select the object that uses the gradient that is going to be renamed.

2) Open the Area dialog and click on **Area** to open the **Area** page, then click on **Gradient** to open the options available for a gradient fill.

3) Right-click on the gradient and select **Rename** from the context menu.

4) Enter a name for the gradient in the Name dialog that opens.

5) Click **OK** save the change and close the Name dialog.

6) Click **OK** to save the changes and close the Area dialog.

Deleting custom gradients

1) Select an object that uses a gradient fill.

2) Open the **Area** page on the Area dialog, then click on **Gradient**.

3) In the **Gradient** box, select the custom gradient for deletion.

4) Right click on the gradient and select **Delete** from the context menu.

5) Click on **Yes** to confirm the deletion.

6) Click **OK** to save the changes and close the Area dialog.

Note

It is recommended to only rename or delete custom gradients that have been created. Deleting or renaming a predefined gradient that is installed with LibreOffice may cause problems in drawings and documents that use one of the gradients.

Advanced gradient controls

LibreOffice provides advanced gradient controls on the Transformations toolbar (Figure 94).

1) Make sure the object is selected in a drawing.

2) Open the **Area** page on the Area dialog, then click on **Gradient**.

3) Go to **View > Toolbars > Transformations** on the Menu bar, or click on **Transformations** in the Line and Filling toolbar to open the Transformations toolbar.

Figure 94: Transformations toolbar

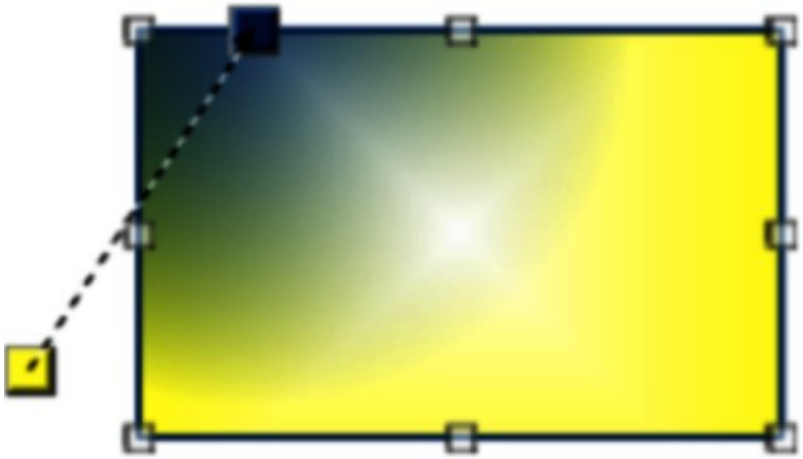

Figure 95: Example of using interactive gradient tool

4) Click on **Interactive gradient tool** in the Transformations toolbar. This displays a dashed line connecting two colored squares (Figure 95) filled with colors in the *From Color* and *To Color* being used for the selected gradient.

5) Select the type of gradient required for the object from the options in the *Type* drop-down list. Properties available for adjustment depend on the gradient type selected, as explained below. Moving the squares has different effects depending on gradient type, see Table 8: Changing gradient properties for information.

6) Click **OK** to save the changes and close the Area dialog.

Note

Moving the squares creates different effects depending on the type of gradient. For example, for a linear gradient, the start and end squares of the gradient are always situated either side of the center point of the object.

Table 8: Changing gradient properties

Gradient type	***Changing gradient properties***
Linear	Move *From Color* square to change where the gradient starts (border value). Move *To Color* square to change the orientation (angle value).
Axial	Move *To Color* square to change both the angle and border properties of the gradient. Only the *To Color* square can be moved.
Radial	Move *From Color* square to modify the border property to set the width of the gradient circle. Move *To Color* square to change the point where the gradient ends (*Center X* and *Center Y* values).
Ellipsoid	Move *From Color* square to modify the border property to set the size of the gradient ellipsoid. Move *To Color* square to change the angle of the ellipsoid axis and the axis itself.
Quadratic	Move *From Color* square to modify the border property to set the size of the gradient square or rectangle and the angle of the gradient shape. Move *To Color* square to change the center of the gradient.

Gradient type	Changing gradient properties
Square	Move *From Color* square to modify the border property to set the size of the gradient square or rectangle and the angle of the gradient shape. Move *To Color* square to change the center of the gradient.

Image fills

Several predefined images are included when LibreOffice is installed on a computer. The content of the supplied images cannot be edited, but the display settings can be changed. Also, images can be imported from other sources.

Selecting images

The following procedure to select an image for an area fill uses the **Image** page of the Area dialog (Figure 96). Using the tools on the Line and Filling Toolbar, and the **Area** panel in the Properties deck on the Sidebar is a similar procedure, but available options are reduced.

1) Make sure the object is selected in a drawing.
2) Open the Area dialog and click on **Area** to open the **Area** page, then click on **Image** to open the options available for an image fill.
3) In **Image**, select the required image from the list of available images and it appears in **Preview**. Alternatively, click on **Add/Import** to open a file browser window, then select a file to use as an image fill.

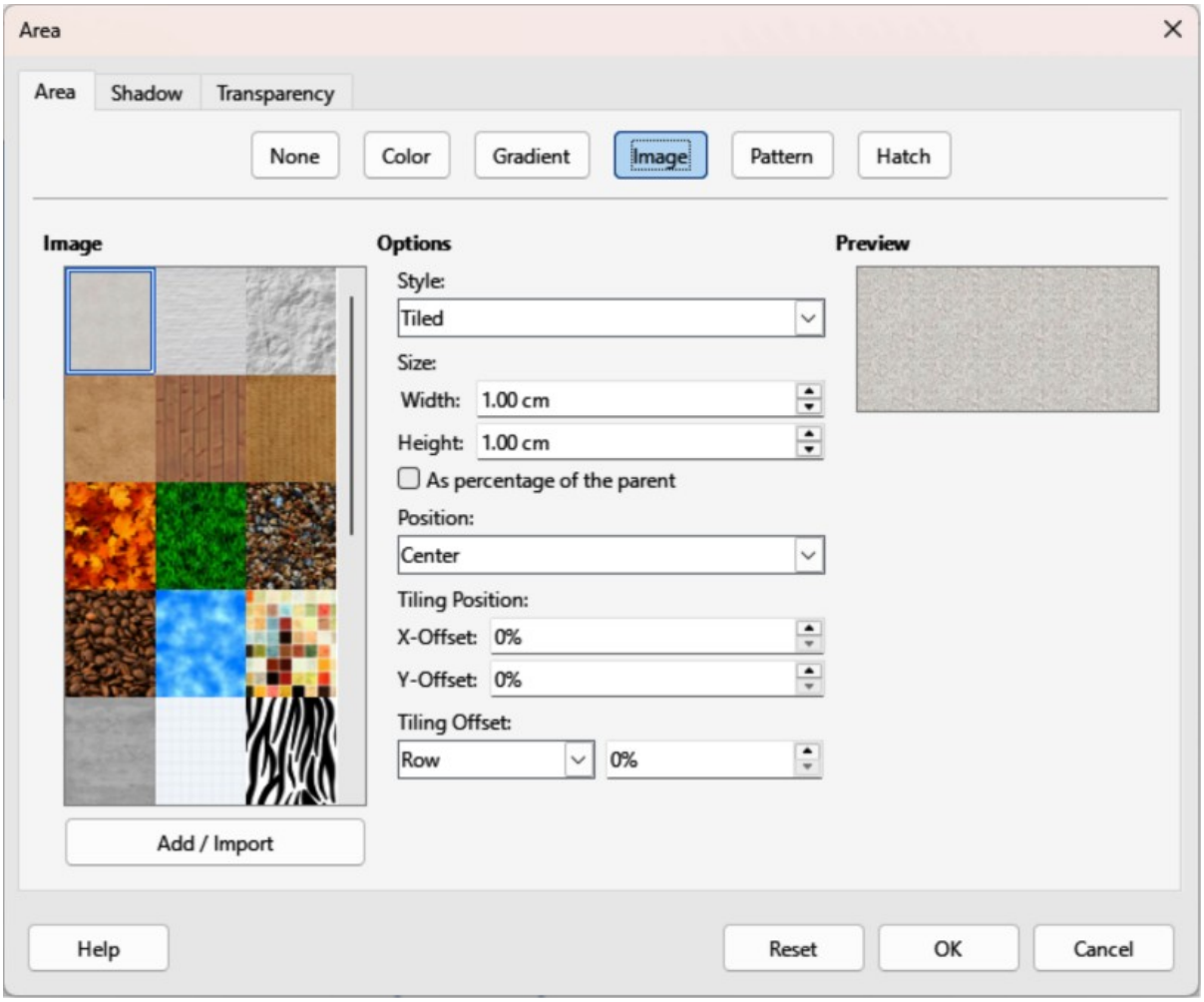

Figure 96: Area dialog — Area Image page

4) If necessary, change the values in *Style*, *Size*, *Position*, *Tiling Position*, and *Tiling Offset* to modify the image. For more information on image options, see Table 9: Image options.

5) If necessary and to revert back to the original image, click on **Reset** and any changes made are removed.

6) Click **OK** to close the Area dialog and save the changes. The image fill then appears in the selected object.

Table 9: Image options

Bitmap option	***Meaning***
Style — Custom position/size	When this option is selected, the position and size of the image in the object can be specified.
Style — Tiled	When this option is selected, the image is tiled to fill the area. The size of the image used for the tiling is determined by the *Size* settings
Style — Stretched	When this option is selected, an image is stretched to fill the object area.
Size — Width	Sets the width of the image. For example, 100% means that the image is resized to occupy the whole fill area width, 50% means that the width of the image is half that of the fill area.
Size — Height	Sets the height of the image. For example, 100% means that the image is resized to occupy the whole fill area height, 50% means that the height of the image is half that of the fill area.
Size — Scale	When selected, image size is given as a percentage for *Width* and *Height*. When deselected, the actual size of the image is given for *Width* and *Height*.
Position	Specifies the anchoring point of the image.
Tiling Position — X-Offset	Sets the offset for the width of the image in percentage values. 50% offset means that LibreOffice Draw places the middle part of the image width at the anchor point and start tiling from there.
Tiling Position — Y-Offset	Sets the offset for the height of the image in percentage values. 50% offset means that LibreOffice Draw places the middle part of the image height at the anchor point and start tiling from there.
Tiling Offset	Offsets the columns of tiled images by the percentage entered in the box so that two subsequent columns of images are not aligned.

Editing images

1) Select an object for editing that contains an image as a fill, or insert an image into a selected object

2) Open the Area dialog and click on **Area** to open the **Area** page, then click on **Image** to open the options available for an image fill.

3) Select an image from the options available in **Image** to use and edit as a fill. Note that imported images are also available. The selected image appears in **Preview**.

4) Change the values for *Style*, *Size*, *Position*, *Tiling Position*, and *Tiling Offset* to the requirements. For more information on image options, see Table 9: Image options. Examples of image or bitmap fills and the properties used are shown in Figure 97.

Figure 97: Examples of image fill

(1) Original image.
(2) Width/height 25% scaled. Anchor top left corner. No offset.
(3) Width/height 25% scaled. Anchor top right. Row offset 50%.

5) If necessary and to revert back to the original image, click on **Reset** and any changes made are removed.

6) Click **OK** to save the changes and close the Area dialog.

Note

Supplied images cannot be edited, but the display settings for placement and tiling can be changed.

Importing images

1) Select an object to import an image into the object.

2) Open the Area dialog and click on **Area** to open the **Area** page, then click on **Image** to open the options available for an image fill.

3) Click on **Add/Import** and a file browser window opens.

4) Navigate to the directory containing the image file, then select the file and click **Open**.

5) Enter a unique name for the new image in the Name dialog that opens, then click **OK** to close the Name dialog. The imported image appears at the bottom of the images displayed in **Image**.

6) Select the imported image in **Image**.

7) Click **OK** to save the changes and close the Area dialog. The imported image fill appears in the selected object.

Renaming images

1) Select an object to import an image into the object.

2) Open the Area dialog and click on **Area** to open the **Area** page, then click on **Image** to open the options available for an image fill.

3) Right-click on the selected image and select **Rename** from the context menu.

4) Enter a new name for the image in the Name dialog that opens.

5) Click **OK** to save the change and close the Name dialog.

6) Click **OK** to save the changes and close the Area dialog.

Deleting images

1) Make sure the object containing an image fill is selected in a drawing.

2) Open the **Area** page on the Area dialog, then click on **Image**.

3) Right click on the selected image being deleted, then select **Delete** from the context menu.

4) Click on **Yes** to confirm the deletion.

5) Click **OK** to save the changes and close the Area dialog.

Note

It is recommended to only rename or delete images that have been created or imported. Renaming or deleting images installed with LibreOffice may cause problems in documents that uses one of these images.

Pattern fills

Several LibreOffice pattern fills are installed during a LibreOffice installation. Custom patterns can also be created and modified in LibreOffice.

Selecting pattern fills

The following procedure selects a pattern for an area fill using the Area dialog. The tools on the Line and Filling Toolbar, and the **Area** panel in the Properties deck on the Sidebar have a similar procedure, but the available options are reduced.

1) Make sure the object is selected in a drawing.

2) Open the Area dialog and click on **Area** to open the **Area** page, then click on **Pattern** to open the options available for a pattern fill (Figure 98).

3) In **Pattern**, select the required pattern and the selected pattern appears in **Preview**.

4) changes are made, the pattern displayed in **Preview** also changes indicating how the pattern will look. Any changes will affect only the object being filled.

5) If necessary and to revert back to the original pattern, click on Reset and any changes made are removed.

6) Click OK to close the Area dialog and save the changes. The pattern fill then appears in the selected object.

Creating custom patterns

1) Make sure the object containing a pattern fill is selected in a drawing.

2) Open the **Area** dialog and click on **Area** to open the **Area** page.

3) Select the required pattern in **Pattern** to use as a starting point and the selected pattern appears in **Preview**.

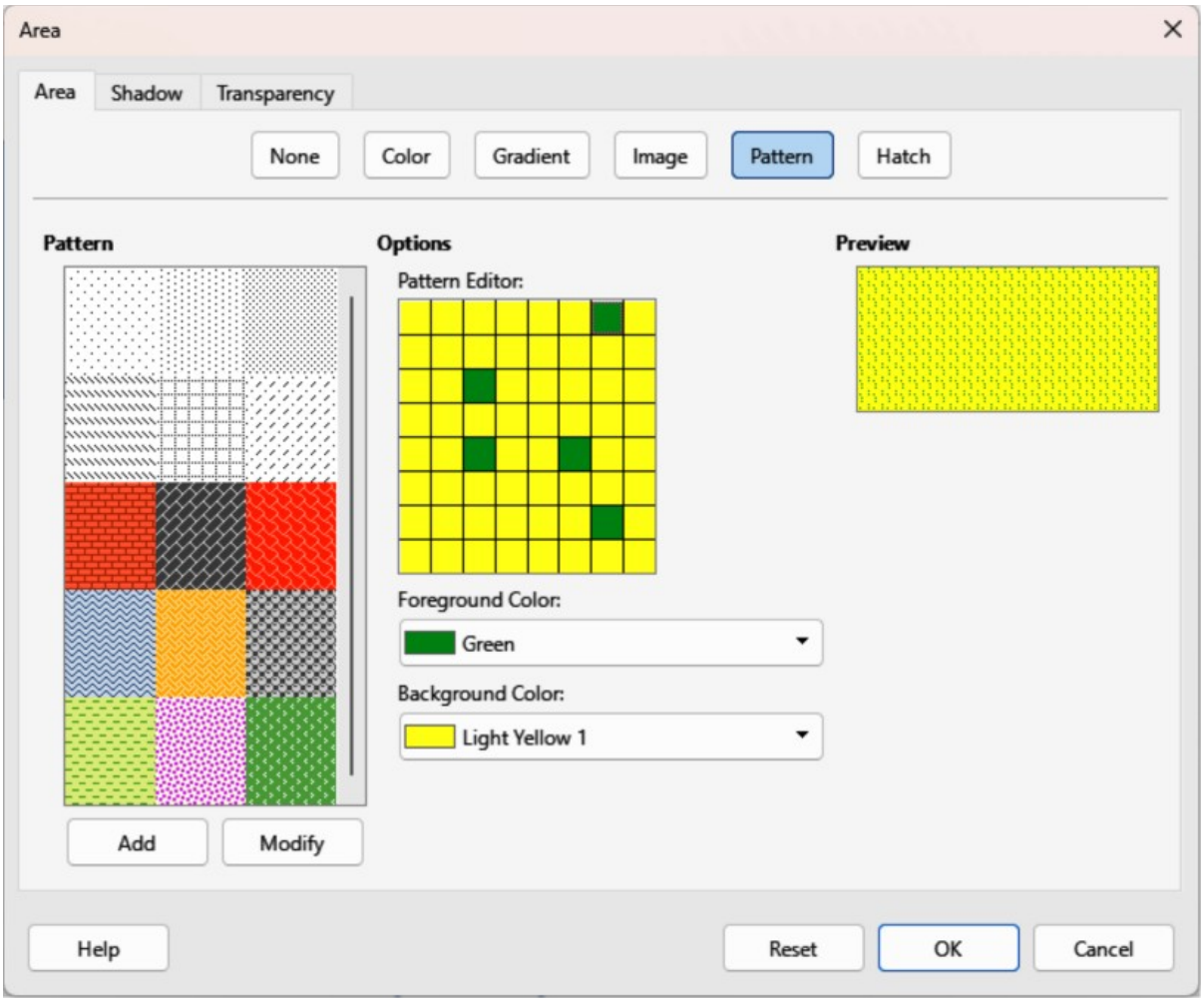

Figure 98: Area dialog — Area Pattern page

4) In **Options**, select a color from the available color palettes for the *Foreground Color* and *Background Color*. The pattern remains the same, but the colors change.
5) In *Pattern Editor*, click on individual squares to change the color from *Foreground Color* to *Background Color*, or from *Background Color* to *Foreground Color* creating a new pattern.
6) In **Preview**, check the pattern being created to see if the desired effect is being achieved.
7) Click on **Add** to open a Name dialog.
8) Enter a unique name for the new pattern, then click **OK** to close the Name dialog. The custom pattern is placed at the end of the patterns displayed in **Pattern** and becomes available for use in other drawings and documents.
9) If necessary, to revert back to the original pattern, click on **Reset** and any changes made are removed.
10) Click **OK** to close the Area dialog and save the changes.

Modifying custom patterns

1) Make sure the object containing a pattern fill is selected in a drawing.
2) Open the Area dialog and click on **Area** to open the **Area** page, then click on **Pattern**.
3) Select a custom pattern from the patterns displayed in **Pattern** and the selected pattern appears in **Preview**. Custom patterns are located below predefined patterns in **Pattern**.

4) In *Pattern Editor*, click on each square to change the color from *Foreground Color* to *Background Color*, or from *Background Color* to *Foreground Color* modifying the selected pattern.

5) If necessary, to revert back to the original pattern, click on **Reset** and any changes made are removed.

6) Click on **Modify** to permanently change the selected custom pattern. There is no confirmation given when modifying a custom pattern.

7) Click **OK** to close the Area dialog and save the changes.

Note

To use a modified pattern in other drawings or documents, the custom pattern has to be saved with a unique name.

Using the **Modify** option on the Pattern **page** in the Area dialog permanently changes a pattern and cannot be undone. It is recommended to only modify custom patterns and not the LibreOffice patterns that were installed.

Renaming patterns

1) Select an object that contains a pattern, or insert a pattern into the selected object.

2) Open the Area dialog and click on **Area** to open the **Area** page, then click on **Pattern** to open the options available for a pattern fill. The selected pattern appears in *Pattern Editor*.

3) Right-click on the pattern for renaming in **Preview** and select **Rename** from the context menu.

4) Enter a name for the pattern in the Name dialog that opens.

5) Click **OK** to save the renaming and close the Name box.

6) Click **OK** to save the changes and close the Area dialog.

Deleting custom patterns

1) Select an object that contains a pattern, or insert a pattern into the selected object.

2) Open the Area dialog and click on **Area** to open the **Area** page, then click on **Pattern** to open the options available for a pattern fill. The selected pattern appears in *Pattern Editor*.

3) Right-click on the pattern for deletion in the **Preview** box and select **Delete** from the context menu.

4) Click on **Yes** to confirm the deletion.

5) Click **OK** to save the changes and close the Area dialog.

Note

It is recommended to only modify, delete or rename custom patterns that have been created. Modifying, deleting or renaming one of the LibreOffice patterns that are installed may cause problems in drawings and documents using one of the patterns.

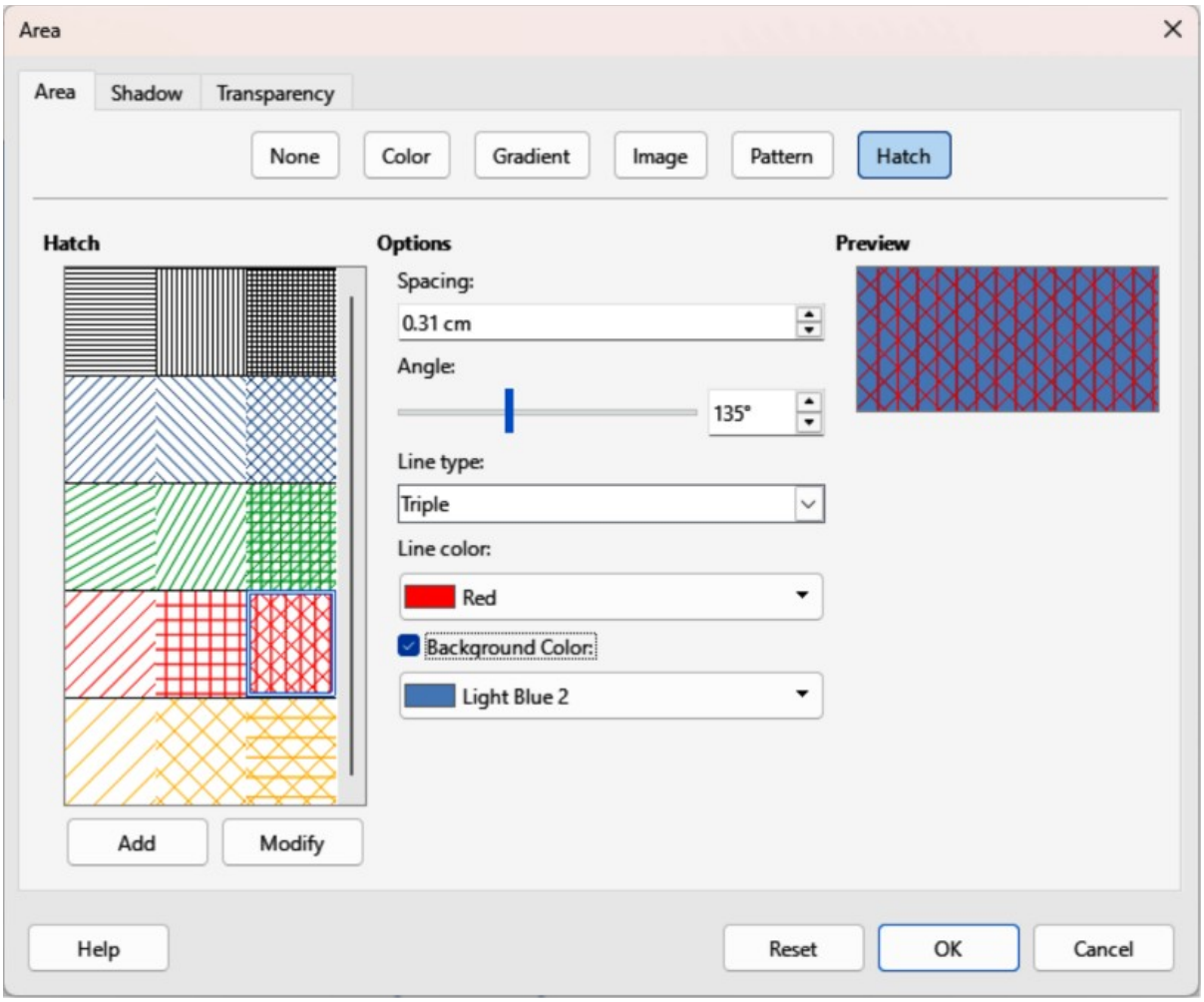

Figure 99: Area dialog — Area Hatch page

Hatch fills

Hatch fills are similar to pattern fills, but use lines instead of squares. Several predefined hatch fills are included when LibreOffice is installed on a computer. Custom hatch fills can also be created and modified.

Selecting hatch fills

The following procedure to select a hatch for an area fill uses the Area dialog. Using the tools on the Line and Filling Toolbar, and the **Area** panel in the Properties deck on the Sidebar is similar, but the available options are reduced.

1) Make sure the object is selected in a drawing.
2) Open the Area dialog and click on **Area** to open the **Area** page, then click on **Hatch** to open the options available for a hatch fill (Figure 99).
3) Select a hatch from the options shown in **Hatch** and the selected hatch fill appears in **Preview**.
4) If necessary to revert back to the original hatch fill, click on **Reset** and any changes made are removed.
5) Click **OK** to close the Area dialog and save the changes. The hatch fill then appears in the selected object.

Creating custom hatch fills

1) Make sure the object is selected in a drawing.
2) Open the Area dialog and click on **Area** to open the **Area** page, then click on **Hatch** to open the options available for a hatch fill.
3) Select the required hatch fill in **Hatch** as a starting point and the selected hatch fill appears in **Preview**.
4) Change the values for *Spacing*, *Angle*, *Line type*, *Line color*, and *Background color* to edit the hatch fill to the requirements. For more information on hatch fill options, see “Table 10: Hatch fill options”.
5) Click on **Add** to open a Name dialog.
6) Enter a unique name for the new hatch fill, then click **OK** to close the Name dialog. The custom hatch fill is placed at the end of the hatch fills displayed in **Hatch** and becomes available for use in other drawings and documents.
7) Click **OK** to close the Area dialog and save the changes. The new hatch fill appears in the selected object.

Table 10: Hatch fill options

Hatching option	***Meaning***
Spacing	Determines the spacing between two lines of the hatch fill. As the value is changed, the preview window is updated.
Angle	Use the mini map below the numerical value to quickly set the angle formed by the line to multiples of 45 degrees. If the required angle is not a multiple of 45 degrees, enter the desired value in the edit box.
Line type	Set single, double, or triple line for the style of the hatch fill.
Line color	Use the list to select the color of the lines that will form the hatch fill.
Background color	When selected, adds a color fill behind the lines used for the hatch fill.

Note

Using the **Modify** option on the **Hatch** page in the Area dialog permanently changes a hatch fill and cannot be undone. It is recommended to only modify custom hatches and not the LibreOffice hatches that were installed.

Modifying custom hatch fills

1) Make sure the object is selected in a drawing.
2) Open the Area dialog and click on **Area** to open the **Area** page, then click on **Hatch** to open the options available for a hatch fill.
3) Select a custom hatch fill in **Hatch** and the selected hatch fill appears in **Preview**. Custom hatch fills are located below the predefined hatch fills in **Hatch**.
4) Change the values for *Spacing*, *Angle*, *Line type*, *Line color*, and *Background color* to edit the hatch fill. For more information on hatch options, see “Table 10: Hatch fill options”.
5) If necessary to revert back to the original hatch fill, click on **Reset** and any changes made are removed.
6) Click on **Modify** to permanently change the selected custom hatch fill. There is no confirmation given when modifying a custom hatch fill.

7) Click **OK** to close the Area dialog and save the changes.

Renaming hatch fills

1) Select the object that contains the hatch fill that is to be renamed.
2) Open the Area dialog and click on **Area** to open the **Area** page, then click on **Hatch** to open the options available for a hatch fill.
3) Right-click on the hatch fill displayed in **Hatch** and select **Rename** from the context menu.
4) Enter a name for the hatch fill in the Name dialog that opens.
5) Click **OK** to save the renaming and close the Name dialog.
6) Click **OK** to save the changes and close the Area dialog.

Deleting custom hatch fills

1) Select an object that uses the hatch fill for deletion.
2) Open the Area page on the **Area** dialog, then click on **Hatch**.
3) In **Hatch**, select the custom hatch fill for deletion.
4) Right-click on the hatch fill and select **Delete** from the context menu. Click on **Yes** to confirm the deletion.
5) Click **OK** to save the changes and close the Area dialog.

Note

It is recommended to only modify, rename or delete hatch fills that have been created. Modifying, renaming or deleting hatch fills that were installed with LibreOffice may cause problems in documents that use one of these hatch fills.

Working with shadows

Shadow options

Shadows can be applied to objects such as lines, shapes and text. The options available for shadows are as follows:

Position
Select one of nine points determining the direction in which the shadow is cast.

Distance or Angle
Determines the offset distance between the object and the shadow.

Color
Sets the color used for the shadow.

Blur
Sets how much the edges of a shadow are blurred or softened.

Transparency
Determines the amount of transparency for the shadow: 0% opaque shadow, 100% transparent shadow.

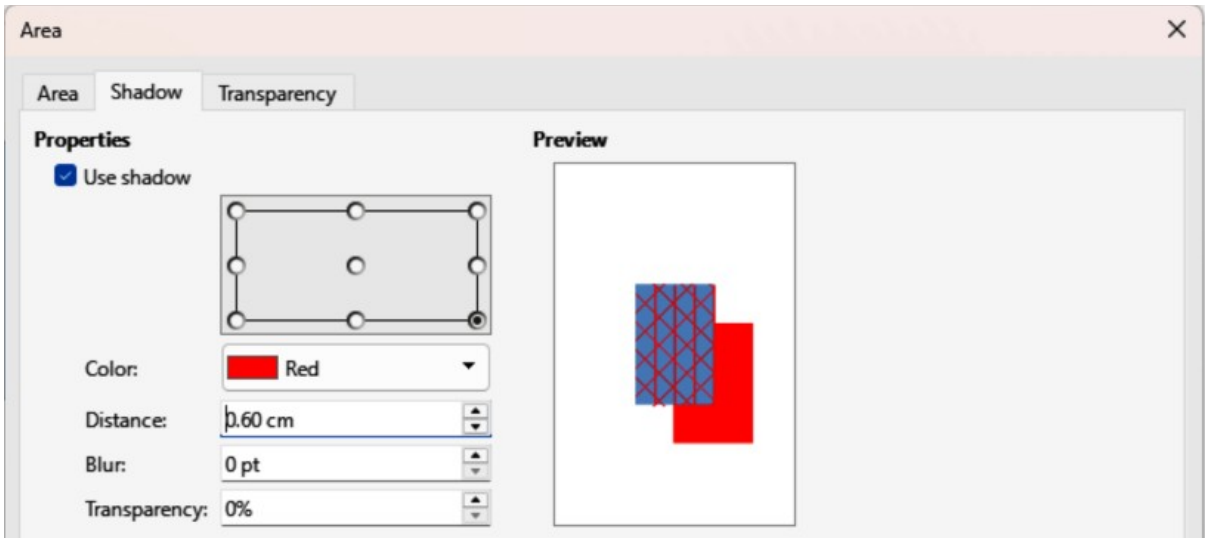

Figure 100: Area dialog — Shadow page

Note

For more control when applying shadows, use the **Shadow** page in Area or Line dialogs. The following information uses the **Shadow** page in the Area dialog (Figure 100), but can also be applied to the **Shadow** page in the Line dialog and the **Shadow** panel in Properties deck on the Sidebar.

Default shadows

To quickly apply a shadow to an object, select the object and click on **Shadow** in the Line and Filling toolbar. The shadow applied to an object uses the default shadow settings in LibreOffice.

Formatting shadows

For a more control when adding shadows to an object, use the **Shadow** page, as follows, on the Area dialog and Line dialog.

1) Select an object where a shadow is going to be applied.
2) Open the Area dialog and click on **Shadow** to open the Shadow page (Figure 100).
3) Select *Use shadow* in **Properties** and the shadow options become active.
4) Select from one of nine points the direction in which the shadow is going to be cast in relation to the object.
5) In *Color*, select the color palette from the drop-down list of available palettes and then select the color required for the shadow.
6) In *Distance*, enter a distance to set spacing between the object and the shadow.
7) In *Blur*, enter a value to soften the edges of the shadow.
8) In *Transparency*, enter a percentage for the shadow transparency.
9) Click **OK** to close the Area or Line dialog and save the changes.

Sidebar shadow formatting

1) Select an object where a shadow is going to be applied.
2) Click on **Properties** to open the Properties deck on the Sidebar.

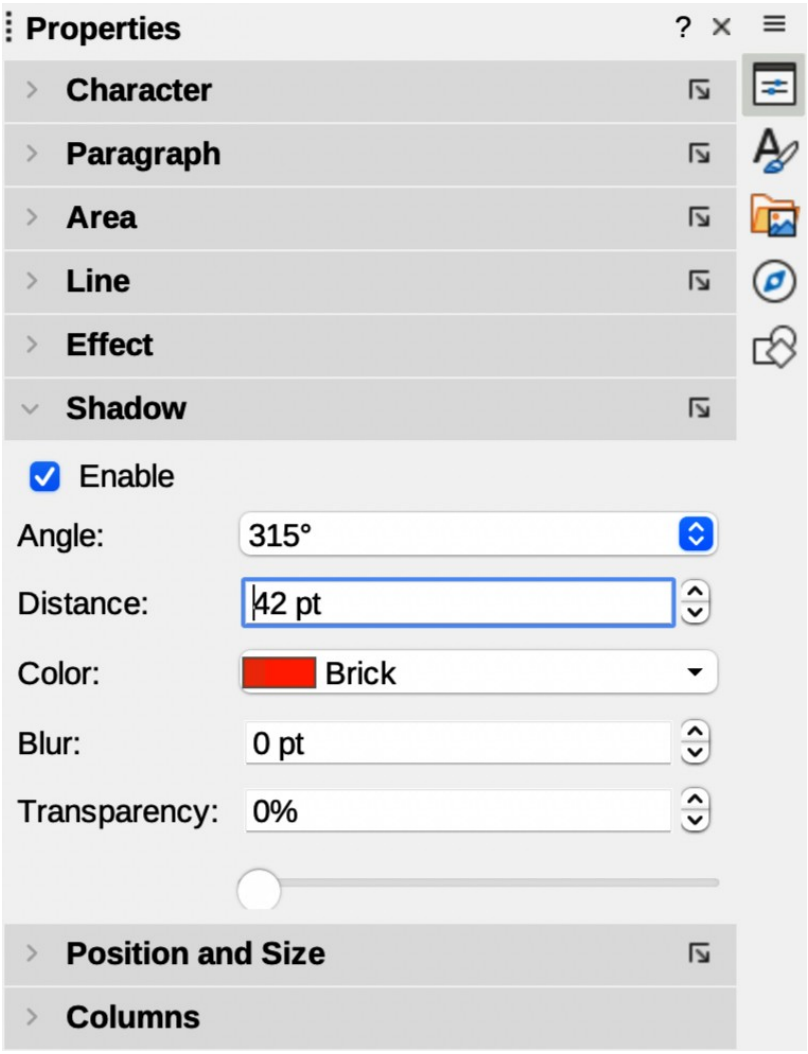

Figure 101: Shadow panel in Properties deck on Sidebar

3) Click on **Shadow** to open the **Shadow** panel (Figure 101) in the Properties deck.
4) Select *Enable* and the shadow options become active.
5) In *Angle*, select from one of the options in the drop-down list to set the direction of where the shadow is going to be cast in relation to the object.
6) In *Color*, select the color palette from the drop-down list of available palettes and then select the color required for the shadow.
7) In *Distance*, enter a distance to set spacing between the object and the shadow.
8) In *Blur*, enter a value to soften the edges of the shadow.
9) In *Transparency*, move the slider or enter a percentage in the text box to set the shadow transparency.
10) Deselect the object to save the changes made.

Working with transparencies

Transparencies can be applied to objects and shadows. In Draw, two types of transparencies can be applied to an object – uniform and gradient. Transparencies can be applied to area fills, gradients, shadows and lines.

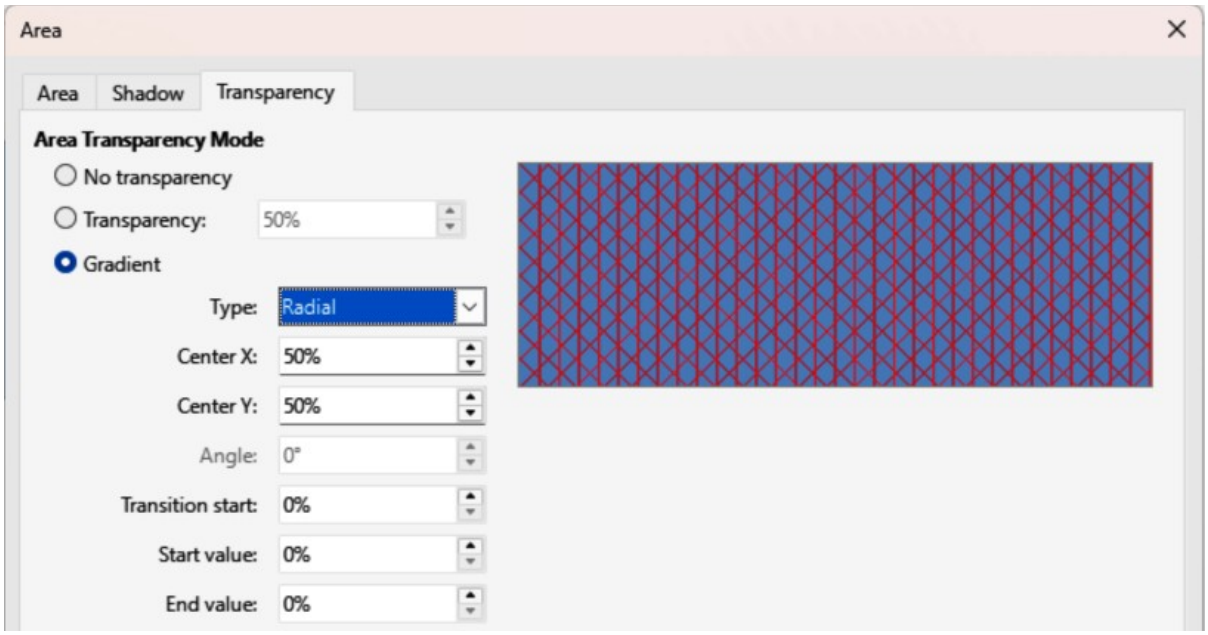

Figure 102: Area dialog — Area Transparency page

- For gradient transparencies and an example of combining a color gradient with a gradient transparency, see “Gradient fills” on page 94.
- For line transparencies, refer to “Who is this user guide for?” on page 8 for more information.
- For shadow transparencies, refer to “Working with shadows” on page 107 for more information.

The following example procedure applies a transparency to an object area fill using the Area dialog (Figure 102):

1) Make sure the object is selected in a drawing.
2) Open the Area dialog, then click on **Transparency** to the open the **Transparency** page and access the available options.
3) To create a uniform transparency, select *Transparency* and enter a percentage in the text box.
4) To create a gradient transparency so that the area becomes gradually transparent, select *Gradient* and select the type of gradient transparency from the drop-down list: *Linear*, *Axial*, *Radial*, *Ellipsoid*, *Quadratic*, or *Square*. See “Table 7: Gradient options” on page 95 for more information on gradient types.
5) Set the parameters for the type of the gradient transparency selected above. Refer to “Table 11: Transparency parameters” for a description of the transparency properties. The parameters available depends type of gradient transparency selected.
6) Click **OK** to close the Area dialog and save the changes.

Table 11: Transparency parameters

Transparency parameters	***Meaning***
Centre X	For *Radial*, *Ellipsoid*, *Quadratic* and *Square* gradients. The values to set the horizontal offset of the gradient center.
Center Y	For *Radial*, *Ellipsoid*, *Quadratic* and *Square* gradients. The values to set the vertical offset of the gradient center.

Transparency parameters	*Meaning*
Angle	For *Linear*, *Axial*, *Ellipsoid*, *Quadratic* and *Square* gradients. Specifies the angle of the gradient axis.
Border	Increase this value to make the gradient start further away from the border of the object.
Start value	Value for the starting transparency gradient. 0% is fully opaque, 100% means fully transparent.
End value	Value for the ending transparency gradient. 0% is fully opaque, 100% means fully transparent.

Drawing styles

If the same area fill, line thickness, and border properties are to be applied to a set of objects, it is recommended to reduce this repetitive by using styles. Styles reduce the risk of format errors by allowing format to be defined and applied to multiple objects. For more information on styles, see the *Writer Guide*.

Note

The drawing styles included with Draw cannot be deleted or renamed, but can be modified to drawing requirements. Drawing styles can also be hidden when not being used in a drawing.

Style categories

All Styles

Displays all drawing styles available for use.

Applied Styles

Only displays drawing styles that have been used in the selected drawing.

Hierarchical Styles

Displays the drawing styles in a hierarchical list (also known as a linked or parent/child styles). To view the styles in a sub-level, click on the triangle ► or chevron **>** next to the style name listing the styles available in the sub-level, as shown in Figure 103.

Custom Styles

Displays all user created drawing styles that are available for use.

Hidden Styles

Displays all drawing styles are hidden when not required.

Tips

Hierarchical styles are used when multiple objects differ in one or two options, but are otherwise identically formatted. Create a parent style for the objects including borders, area fill, font, and so on. Then create a hierarchical or child styles, which differ, for example, in fill color. If the font size or the thickness of a border needs to be changed, it is sufficient to change the parent style and all the child styles are changed accordingly.

At the bottom of the Styles deck on the Sidebar there is a drop-down list allowing selection of a style category. The style categories available are *Hierarchical*, *All Styles*, *Hidden Styles*, *Applied Styles*, and *Custom Styles*.

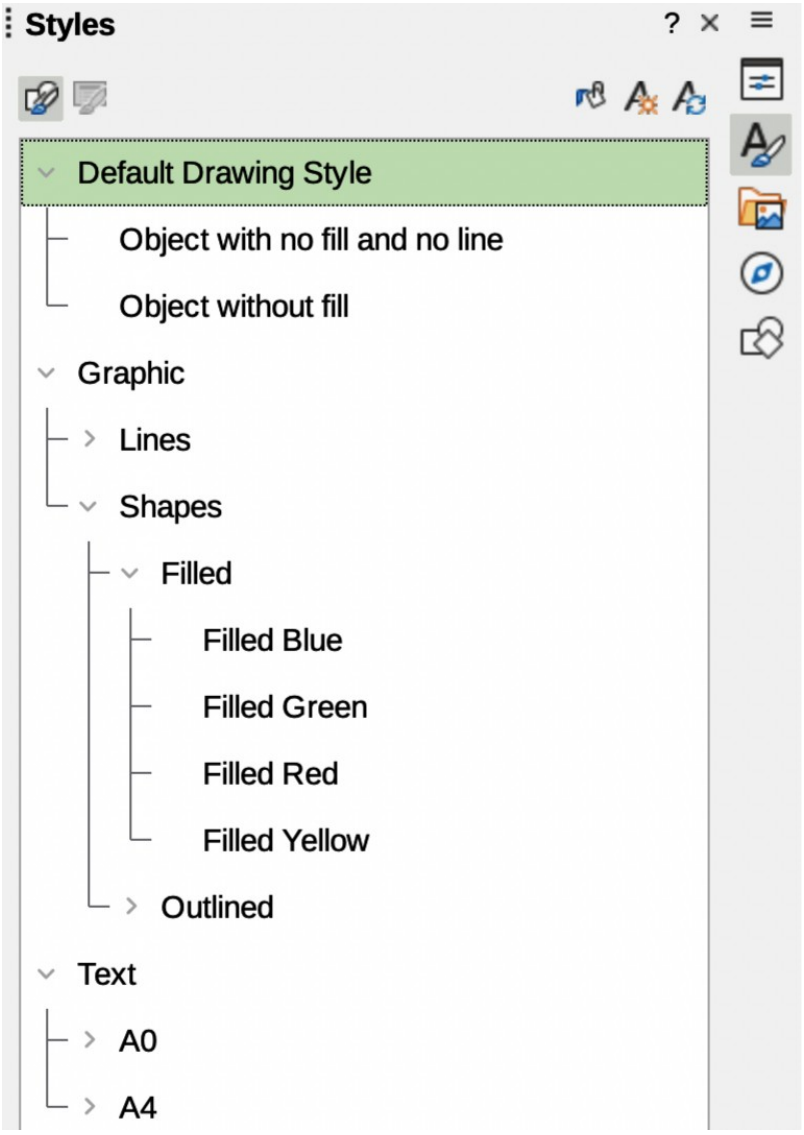

Figure 103: Styles deck in Sidebar

Selecting styles

Styles can only be selected and applied to objects using the Styles deck on the Sidebar (Figure 103).

1) Select the object for style application.
2) Open the Styles deck on the Sidebar using one of the following methods:
   - Go to **View > Sidebar** on the Menu bar, then click on **Styles** at the right side of the Sidebar.
   - Click on **Show the Styles Sidebar** on the Line and Filling toolbar.
   - Go to **View > Styles** on the Menu bar.
   - Use the keyboard shortcut *F11*.
3) Select a style category from the drop-down list at the bottom of the Styles deck.
4) In the Styles deck, double-click on the style required for the selected object.
5) If necessary, create a custom style, or modify the selected style to drawing requirements.

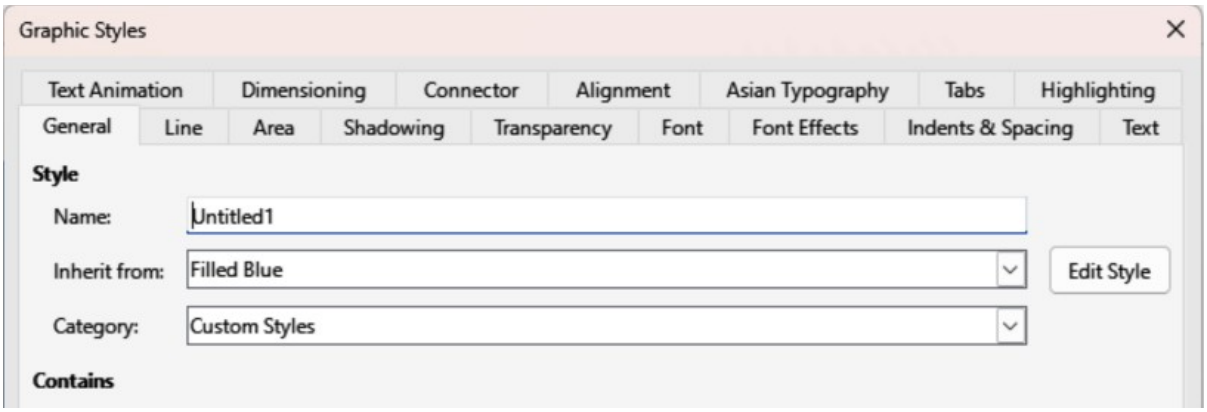

Figure 104: Graphic Styles dialog — General page

Note

It is recommended to create custom styles rather than modify drawing styles that were installed with LibreOffice. Modifying the LibreOffice drawing styles may cause formatting problems if the style has been used in other drawings.

Creating custom styles

Custom styles are placed in **All Styles** and **Custom Styles** categories in the Sidebar Styles deck. When a custom style is applied to an object, the custom style appears in **Applied Styles**.

Using Styles deck

1) Open the Styles deck on the Sidebar.
2) Right click on the style required as a starting point to create a custom style and select **New** from the context menu to open the Graphic Styles dialog (Figure 104).
3) Click on **Organizer** to open the **Organizer** page in the Graphic Styles dialog.
4) In the *Name* text box, enter a unique style name.
5) In *Inherit from text box*, select **None** from the drop-down list if the new drawing style is NOT going to be linked. When an object is created, it uses the **Default Drawing Style** and a new drawing style is linked by default to the **Default Drawing Style**.
6) If the new style is to inherit settings from an existing style, select a style from the *Inherit from:* drop-down list.
7) Use the available options on the various pages of the Graphic Styles dialog to format and categorize a new style.
8) Click **OK** to save the new style and close the Graphic Styles dialog.

Using New Style from Selection

Using the option **New Style from Selection** all formatting is applied to an object first and then a new drawing style is created using the formatting changes.

1) Select an existing object, or create a new object in a drawing.
2) Format the object using the tools and options from the Graphic Styles dialog, Area dialog, Line dialog, Properties deck on the Sidebar, or Line and Filling toolbar.
3) Make sure the object is selected and create the new style using one of the following methods:

– Open the Styles deck on the Sidebar and click on **New Style from Selection** at the top right of the deck.

– Go to **Format > Styles > New Style from Selection** on the Menu bar.

4) In the **New Style from Selection** dialog, enter a unique name for the new style. This dialog also shows existing custom styles.

5) Click **OK** to save the new style and close the New Style from Selection dialog.

Modifying styles

1) Select an object in a drawing.

2) Click on **Styles** on the left of the Sidebar to open the Styles deck.

3) Open the Graphic Styles dialog using one of the following methods:

– Go to **Format > Styles > Edit Style** on the Menu bar.

– Right-click on the object and select **Edit Style** from the context menu.

– Right-click on the style that is highlighted in the Styles deck on the Sidebar and select **Modify** from the context menu.

4) Use the options on the various pages of the Graphic Styles dialog to modify the style.

5) Click **OK** to save the changes and close the Graphic Styles dialog.

Note

It is recommended to only modify custom styles. Modifying the installed LibreOffice styles may cause formatting errors in other documents that uses a LibreOffice style.

Editing hierarchical or parent styles

If an object uses a style that is linked to a hierarchical or parent style, then this hierarchical or parent style can be edited.

1) Select an object in a drawing that uses a linked style.

2) Open the Graphic Styles dialog and click on **Organizer** to open the **Organizer** page in the Graphic Styles dialog.

3) Check that the style name in the *Inherit from* text box is the required hierarchical or parent style, then use the options on the various pages in the Graphic Styles dialog to edit the style.

4) If the hierarchical or parent style is **NOT** the style required:

a) Click on **Edit Style** to the right of the *Inherit from* text box until the name of the style is displayed.

b) Use the options on the various pages in the Graphic Styles dialog to edit the style.

5) Click **OK** to save the changes and close the Graphic Styles dialog.

Updating styles

Using **Update Style** allows all formatting to an object to be applied first and then the drawing style used for the object is updated.

1) Select the object to update the applied drawing style.

2) Format the object using the tools and options from the Graphic Styles dialog, Area dialog, Line dialog, Properties deck on the Sidebar, or Line and Filling toolbar.

3) Update the drawing style using one of the following methods. There is no confirmation when updating a drawing style.
   – Open the Styles deck on the Sidebar and click on **Update Style** at the top right.
   – Go to **Format > Styles > Update Selected Style** on the Menu bar.

Note

Only update custom styles that have been created. Updating drawing styles installed with LibreOffice may create formatting errors in other documents that use LibreOffice drawing styles.

Applying styles

Drawing styles are applied to an object using the Styles deck on the Sidebar as follows:

1) Select the object to apply a drawing style.
2) Click on **Styles** on the Line and Filling toolbar, or click on **Styles** on the Sidebar.
3) Double click on a style name to apply the drawing style to the selected object.

Deleting styles

Drawing styles installed with LibreOffice cannot be deleted, even if the drawing styles are not being used. Only custom styles can be deleted.

1) To open a list of styles, use one of the following methods:
   – Click on **Styles** on the Line and Filling toolbar.
   – Click on **Styles** on the Sidebar.
2) Select *Applied Styles* from the drop-down list at the bottom of the Styles deck on the Sidebar.
3) Right click on the style name in the styles list and select **Delete** from the context menu.
4) If the style is used on an object, a warning message appears stating that the selected object will revert back to the default drawing style. Select **Yes** to confirm deletion of the style.
5) If the style is not in use, select **Yes** to confirm deletion of the style and there is no confirmation message.

Note

Before deleting a custom style, it is recommended to make sure the drawing style is not in use by checking the list of drawing styles in the **Applied Styles** category.

Special effects

Note

The tools on the Transformations toolbar are described in the following sections with the exception of the **In 3-D Rotation Object** tool. This tool is described in Chapter 7, Working with 3D Objects.

A number of special effects can be applied to objects in Draw. Several of these effects are readily available on the Transformations toolbar. If the Transformations toolbar (Figure 94 on page 98) is not open, go to **View > Toolbars > Transformations** on the Menu bar and select **Transformations**.

Rotating objects

Note

By default, the rotation pivot point is a small circle in the center of the selected object. To change the center of object rotation, click and drag the rotation pivot point to a new position. The rotation pivot point can be positioned outside of the selected object.

Manual rotation

1) Select an object for rotation so that the selection handles are displayed.
2) Use one of the following methods to switch the selected object into rotation mode. The selection handles change shape and color when in rotation mode (Figure 105).
   - Click again on the selected object.
   - Click on the triangle ▼ to the right of **Transformations** on the Line and Filling and select **Rotate** from the context menu.
   - If the Transformations toolbar is open, click on **Rotate**.
3) Move the cursor over one of the corner handles and the cursor changes shape. Only corner selection handles are active for rotation.
4) Click and drag on a corner selection handle to rotate the selected object.
5) To restrict the rotation angles to multiples of 15 degrees, press and hold the *Shift* key while rotating the object. This is useful for rotating objects through 90 deg.
6) When satisfied with the rotation, release the corner selection handle.

Rotation using Sidebar

1) Select the object for rotation so that the selection handles are displayed.

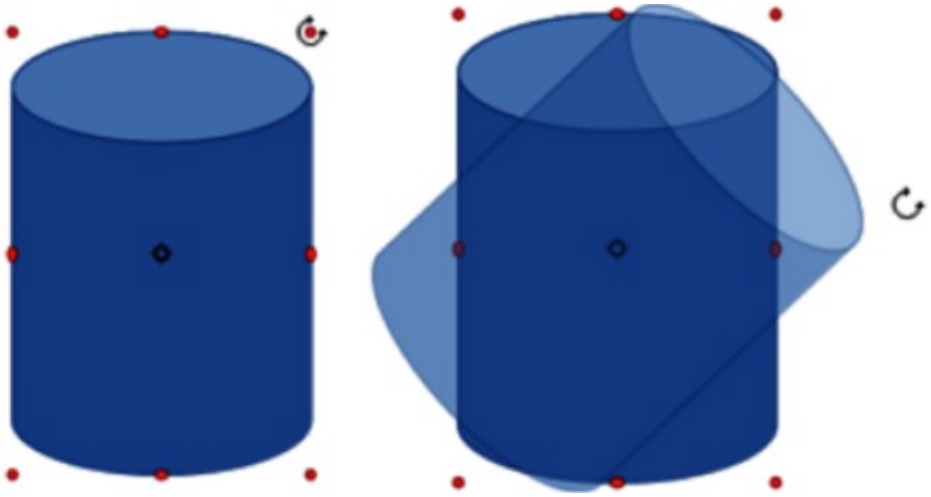

Figure 105: Example of manual rotation

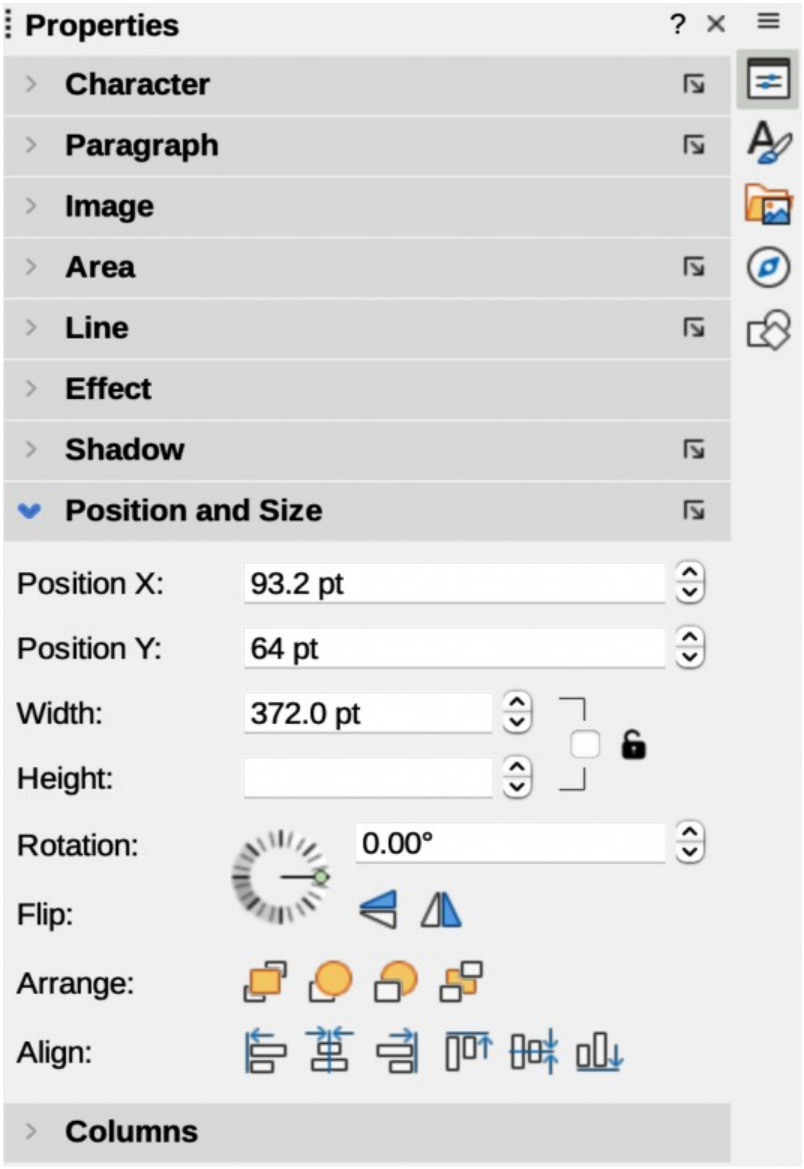

Figure 106: Position and Size panel in Properties deck on Sidebar

2) Open the Position and Size panel in the Properties deck on the Sidebar (Figure 106).

3) Rotate the object using one of the following options:

   – Click on and drag the Rotation Angle indicator in *Rotation*.

   – Enter a rotation angle in the *Select the angle for rotation* text box.

4) After rotating the object, click outside the object to deselect the object and save the changes.

Position and Size dialog

1) Select the object for rotation so that the selection handles are displayed.

2) Open the Position and Size dialog (Figure 107) using one of the following methods:

   – Use the keyboard shortcut *F4*.

   – Select **Format > Position and Size** on the Menu bar.

   – Right-click on the object and select **Position and Size** from the context menu.

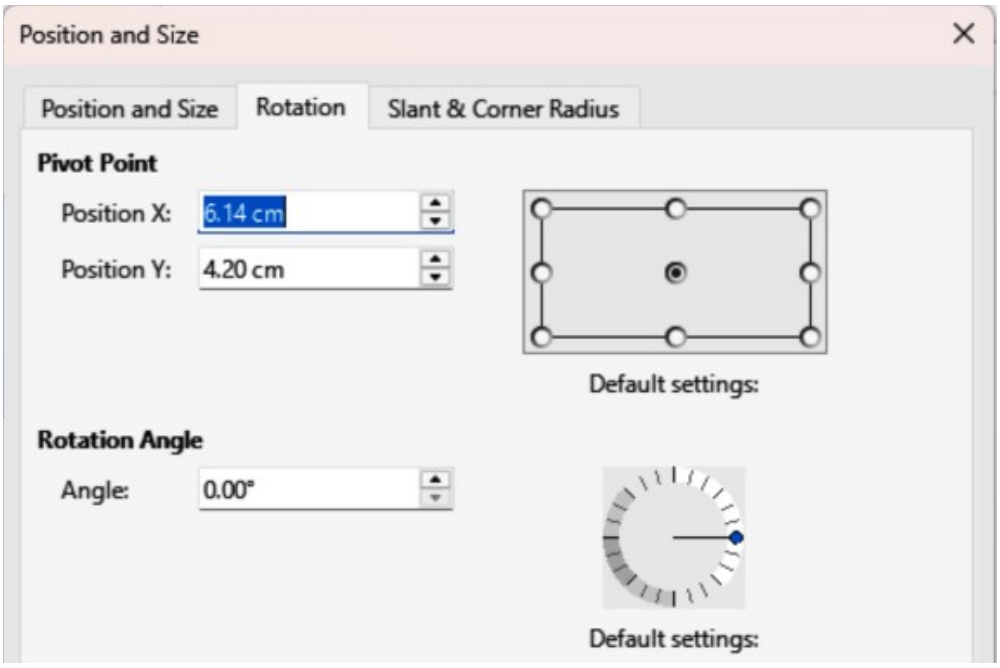

Figure 107: Position and Size dialog — Rotation page

3) Click **Rotation** to open the **Rotation** page.
4) If required, in **Pivot Point** enter a value for *Position X* and *Position Y* to move the position of the pivot point. The default position of the pivot point is the center of the object. Alternatively, select a pivot point from one of the 9 positions in *Default settings*.
5) In **Rotation Angle**, rotate the object using one of the following methods:
   – In the *Angle* text box, enter the degrees of rotation required.
   – Click on and drag the rotation indicator in *Default settings*.
6) Click **OK** to save the changes and close the Position and Size dialog.

Flipping objects

Quick flipping

1) Select the object for flipping to display the selection handles.
2) Use one of the following methods to flip the object vertically or horizontally:
   – Right click on the object and select **Flip > Horizontally** or **Flip > Vertically** from the context menu.
   – In *Flip* on the **Position and Size** panel in the Properties deck on the Sidebar (Figure 106 on page 117), click on **Flip Vertically** or **Flip Horizontally**.
   – In the Line and Filling toolbar, click on **Vertically** or **Horizontally**.
   – Go to **Shape > Flip > Vertically** or **Horizontally** on the Menu bar.

Flip tool

Using **Flip** on the Transformations toolbar (Figure 94 on page 98), the position and angle that the object flips over can be changed, as shown by the example in Figure 108.

1) Select the object for flipping to display the selection handles.

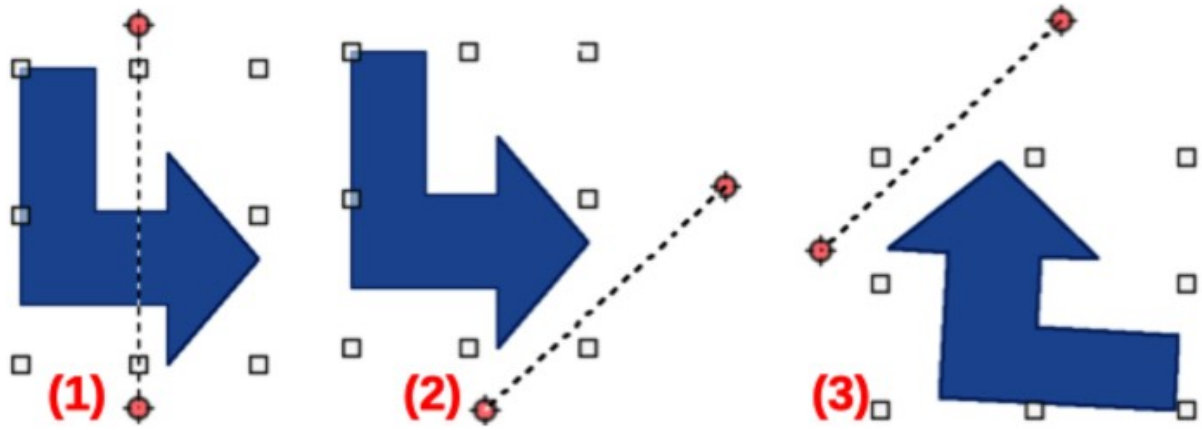

Figure 108: Example of using Flip tool

(1) Flip selected (2) Symmetry axis moved (3) Flip result

2) Click on **Flip** on the Transformations toolbar and the symmetry axis appears as a dashed line through the middle of the object. The object is flipped about this symmetry axis.

3) Click and drag one or both ends of the symmetry axis setting the axis orientation.

4) Place the cursor over one of the object selection handles until it changes shape.

5) Click and hold the selection then drag the object across to the other side of the symmetry axis until the object appears flipped over. The angle and position of the flip depends on the angle and position of the symmetry axis.

6) Release the selection handle and the object is flipped.

Note

Pressing and holding the *Shift* key while moving the symmetry axis allows rotation in 45 degree increments.

Mirror copies

At the moment there is no mirror command available in LibreOffice Draw. However, mirroring an object can be emulated by copying and flipping the object as follows:

1) Select the object to copy the object to the clipboard.

2) Flip the object using the procedures in “Flipping objects” on page 118.

3) Click in an empty area on the drawing to deselect the object.

4) Paste the copy of the original object back into its original location creating a mirror copy.

5) If necessary, select both objects and align them using one of the following methods:

   – Go to **Shape > Align** on the Menu bar and use one of the alignment options.

   – Right-click the selected objects and select **Align** from the context menu, then select one of the alignment options.

Distorting images

Three tools on the Transformations toolbar (Figure 94 on page 98) allow an object to be distorted.

- **Distort** — distorts an object in perspective.
- **Set to circle (slant)** and **Set in Circle (perspective)** — both create a pseudo 3D effect.

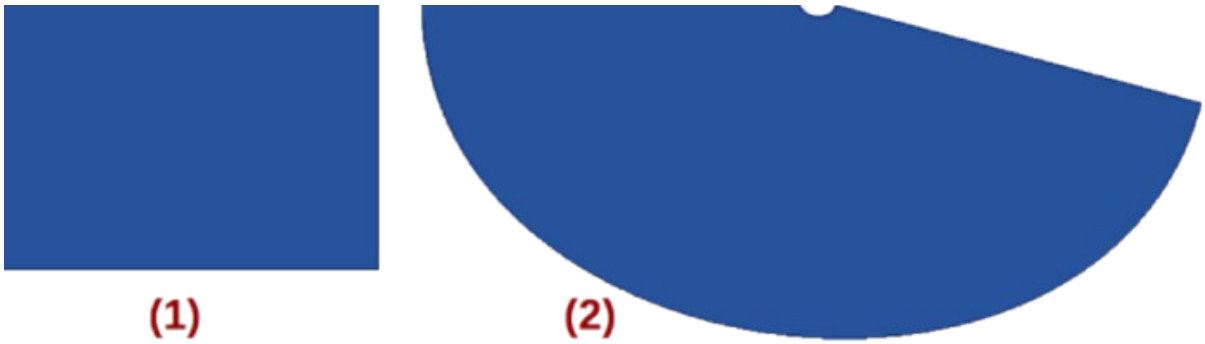

Figure 109: Example of using Set In circle (perspective) tool

(1) Original obect (2) Set in Circle (perspective) distortion

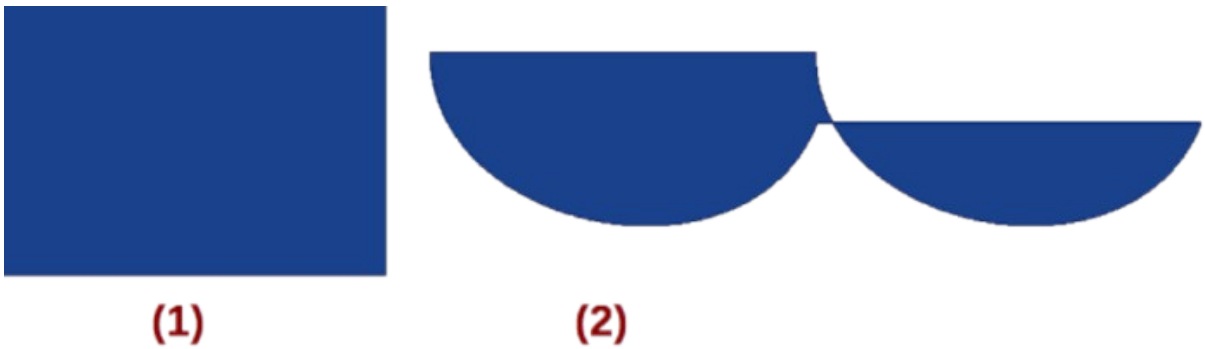

Figure 110: Example of using Set in circle (slant) tool

(1) Original obect (2) Set in circle (slant) distortion

Note

Before distorting an object, the object must be converted to a curve. Transforming an object into a curve is a safe operation, but cannot be reversed. To cancel the curve conversion, click on **Format > Undo** on the Menu bar.

Set in circle (perspective)

An example of distorting an object using **Set in Circle (perspective)** is shown in Figure 109.

1) Select an object and click on **Set in Circle (perspective)** on the Transformations toolbar.
2) Click **Yes** to convert the object to a curve. If the object is already a curve, this dialog does not appear.
3) Click and drag one of the selection handles to give a pseudo 3D perspective using the opposite side as an anchor point. A ghosted image appears as the object is distorted to give an indication of how the resulting object will look.

Set to circle (slant)

An example of distorting an object using **Set to circle (slant)** is shown in Figure 110.

1) Select an object and click on **Set to circle (slant)** on the Transformations toolbar.
2) Click **Yes** to convert the object to a curve. If the object is already a curve, this dialog does not appear.
3) Click and drag one of the selection handles to give a pseudo 3D perspective using the opposite side as an anchor point. A ghosted image appears as the object is distorted to give an indication of how the resulting object will look.

Figure 111: Example of using Distort tool

(1) Original object
(2) Corner distortion
(3) Vertical distortion
(4) Horizontal distortion

Distort

Examples of distorting an object using **Distort** are shown in Figure 111.

1) Select an object and click on **Distort** on the Transformations toolbar.
2) Click **Yes** to convert the object to a curve. If the object is already a curve, this dialog does not appear.
3) Click and drag a corner selection handle to distort the object using the opposite corner selection handle as an anchor point for the distortion.
4) Click and drag the vertical selection handles to distort the object using the opposite vertical side as an anchor point for the distortion.
5) Click and drag the horizontal selection handles to distort the object using the opposite horizontal side as an anchor point for the distortion.

Dynamic gradients

Transparency gradients are controlled using the same procedure for color gradients and both types of gradient are used together. With a transparency gradient, the direction and degree of 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.

Two icons on the Transformations toolbar dynamically control transparency and color gradients. Even if an object with a color fill is not assigned transparency, the transparency can be controlled by clicking on **Interactive transparency tool**. This defines a transparency gradient and a dashed line connecting two squares appears on the object. Move the two squares to modify the gradient. Define the direction of the gradient (vertical, horizontal, or at any angle) and the spot at which the transparency begins.

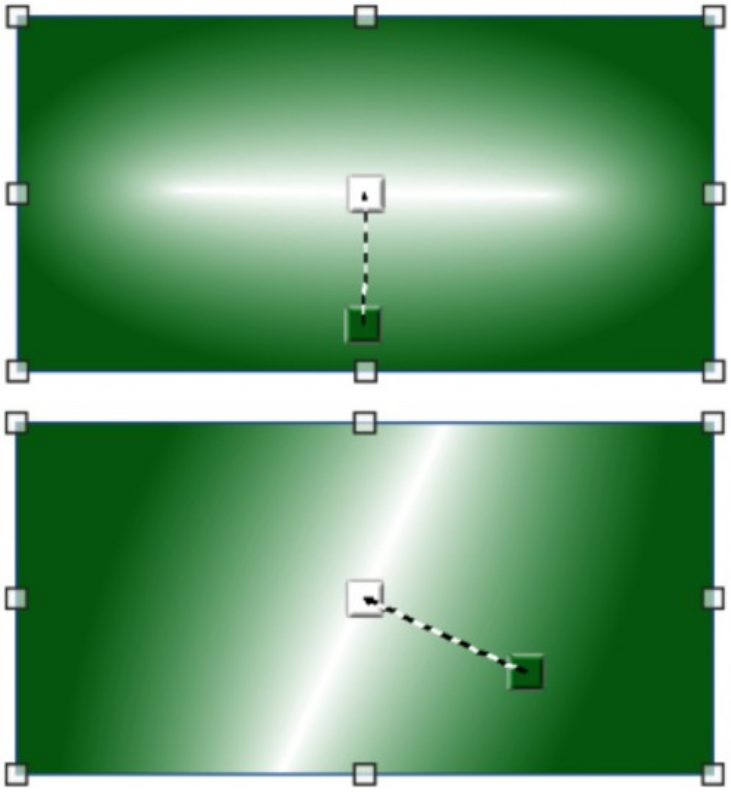

Figure 112: Example of using Dynamic Gradient tool

A regular color gradient is defined in the same manner. Select an object, then select a gradient area fill (see “Gradient fills” on page 94 for more information). The **Interactive gradient tool** is now active on the Transformations toolbar. When clicking on **Interactive gradient tool**, a dashed line connecting two squares appears on the object, just as it does for a transparency gradient. In both transparency gradient and gradient fill, click outside the object to set the gradient.

In the example shown in Figure 112 a gradient transparency is dynamically adjusted. Direction of transparency is changed by moving the white square and the distance over which it is applied by moving the colored square.

Note

Moving the squares has different effects, depending on the type of gradient. For example, for a linear gradient, the start and end squares of the gradient are always situated on either side of the center point of the object.

Draw Guide 24.8

Chapter 5, Combining Multiple Objects

Grouping objects

Grouping of objects is similar to placing objects into a container. Objects within a group are moved together as one object and any changes made are applied to all objects within the group. A group can be ungrouped and the objects that make up the group can be manipulated separately.

Temporary grouping

A temporary grouping is when several objects are selected together. Any changes to object parameters are applied to all objects within the temporary group. For example, a temporary group of objects can be rotated in its entirety. A temporary group is created using one of the following methods:

- Click and drag the cursor over several objects surrounding the objects with a selection rectangle. This selection rectangle is also known as a marquee, as shown in Figure 113. Release the cursor when all the objects required for a temporary group are selected.
- Click the first object, then hold down the *Shift* key and click on the remaining objects required for a temporary group.
- To cancel a temporary group of objects, simply click outside of the selection handles displayed around the objects.

Grouping

When objects are grouped, any editing carried out on a group is applied to all objects within the group. Click on one object in a group selects the whole group. Objects within a group retain their individual properties and can be edited independently. See “Editing individual objects in a group” on page 125 for more information.

1) Select objects for a group using one of the following methods. Selection handles appear around all objects selected for the group (Figure 114).
   – Click on each object required while holding down the *Shift* key.
   – Select **Select** on the Drawing toolbar and draw a selection rectangle around the objects required for the group.

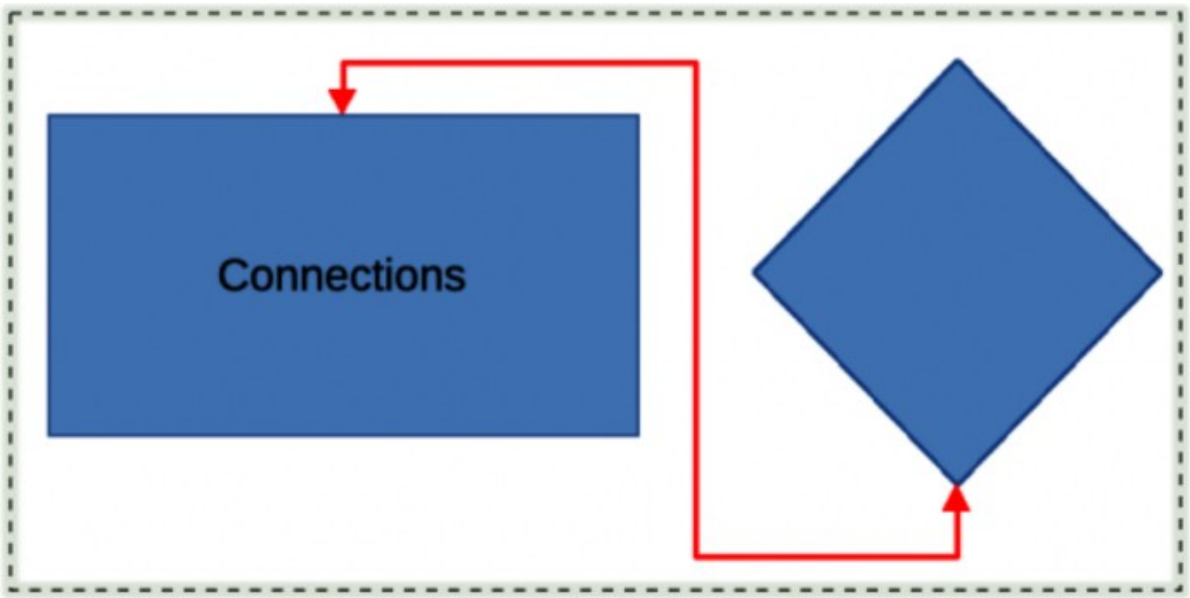

Figure 113: Example of a selection rectangle (marquee)

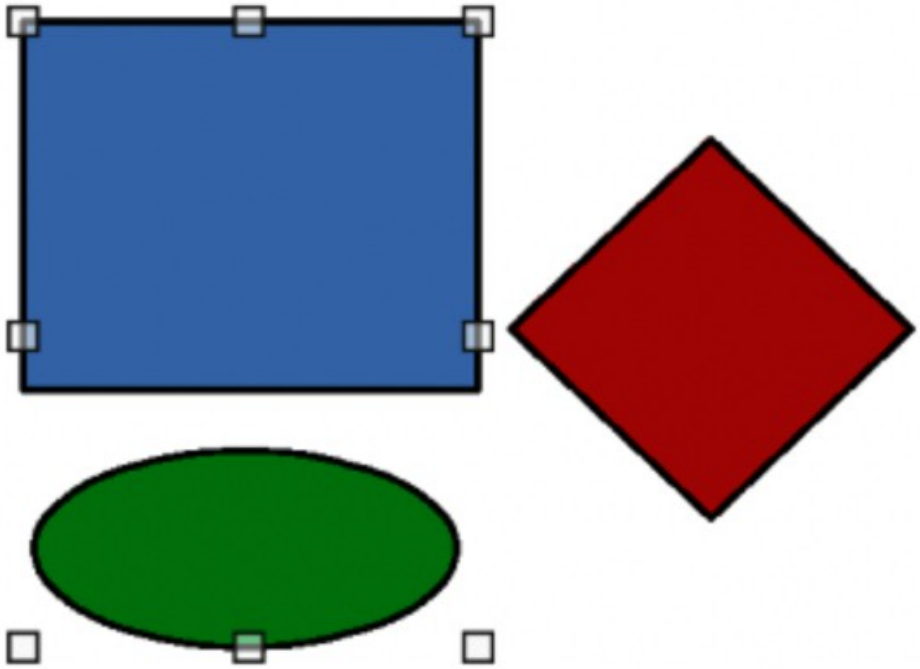

Figure 114: Example of grouping objects

– To select all the objects, go to **Edit > Select All** on the Menu bar, or use the keyboard shortcut *Ctrl+A* (macOS ⌘+*A*).

2) Create a group of selected objects using one of the following methods:

– Right-click on an object within the selected group and select **Group** from the context menu.

– Go to **Shape > Group > Group** on the Menu bar.

– Use the keyboard shortcut *Ctrl+Shift+G* (macOS ⌘+*Shift+G*).

Ungrouping

1) Select a group of objects and selection handles appear around objects within the group (Figure 114).

2) Ungroup a group of objects using one of the following methods:

– Right-click on the selected group and select **Ungroup** from the context menu.

– Go to **Shape > Group > Ungroup** on the Menu bar.

– Use the keyboard shortcut *Ctrl+Alt+Shift+G* (macOS ⌘+⌥+*Shift+G*).

Editing individual objects in a group

Note

After entering a group, any other objects outside the group cannot be selected for editing. Exit from the selected group first before editing objects outside the group.

An object within a group can be edited individually without ungrouping the objects.

1) Select a group, then enter the group using one of the following methods:

– Right-click on the group and select **Enter Group** from the context menu.

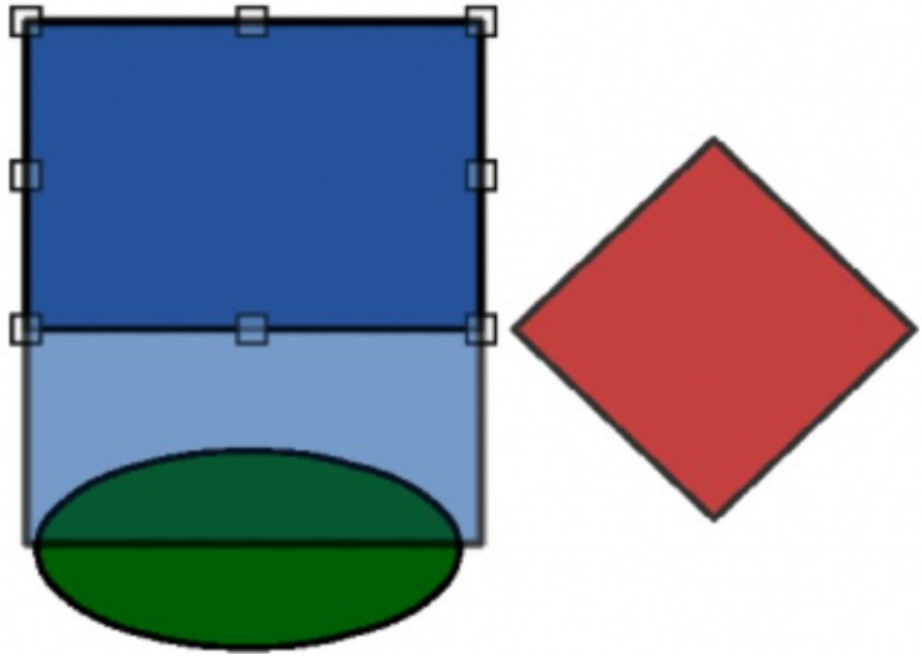

Figure 115: Example of editing individual object within a group

- Go to **Shape > Group > Enter Group** on the Menu bar.
- Use the keyboard shortcut *F3*.
- Double-click on the selected group.

2) Click on an object to select and individually edit it, as shown in Figure 115.

3) After editing and saving changes to an individual object within a group, exit the group using one of the following methods:
   - Right-click on the group and select **Exit Group** from the context menu.
   - Go to **Shape > Group > Exit Group** on the Menu bar.
   - Use the keyboard combination **Ctrl+F3** (macOS ⌘+*F3*).
   - Double-click outside the group.

Nesting groups

A group of groups can be created and is commonly known as nesting groups. When nested groups are created, Draw retains individual group hierarchy, keeping the order in which groups were selected. The last individual group selected is on top of all the other groups within a nested group. Ungrouping and entering a nested group works the same way as for individual groups.

Tip

If group and ungroup commands are regularly used, or any other command, tools can be added to a toolbar. See Appendix B, Toolbars and the *Getting Started Guide* for more information on customizing toolbars.

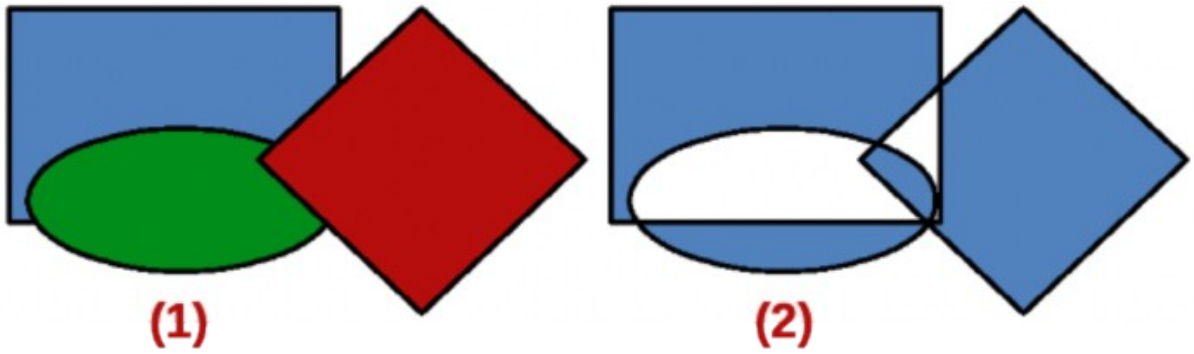

Figure 116: Example of area fill in combined objects

(1) Overlapping individual objects (2) Combined individual objects

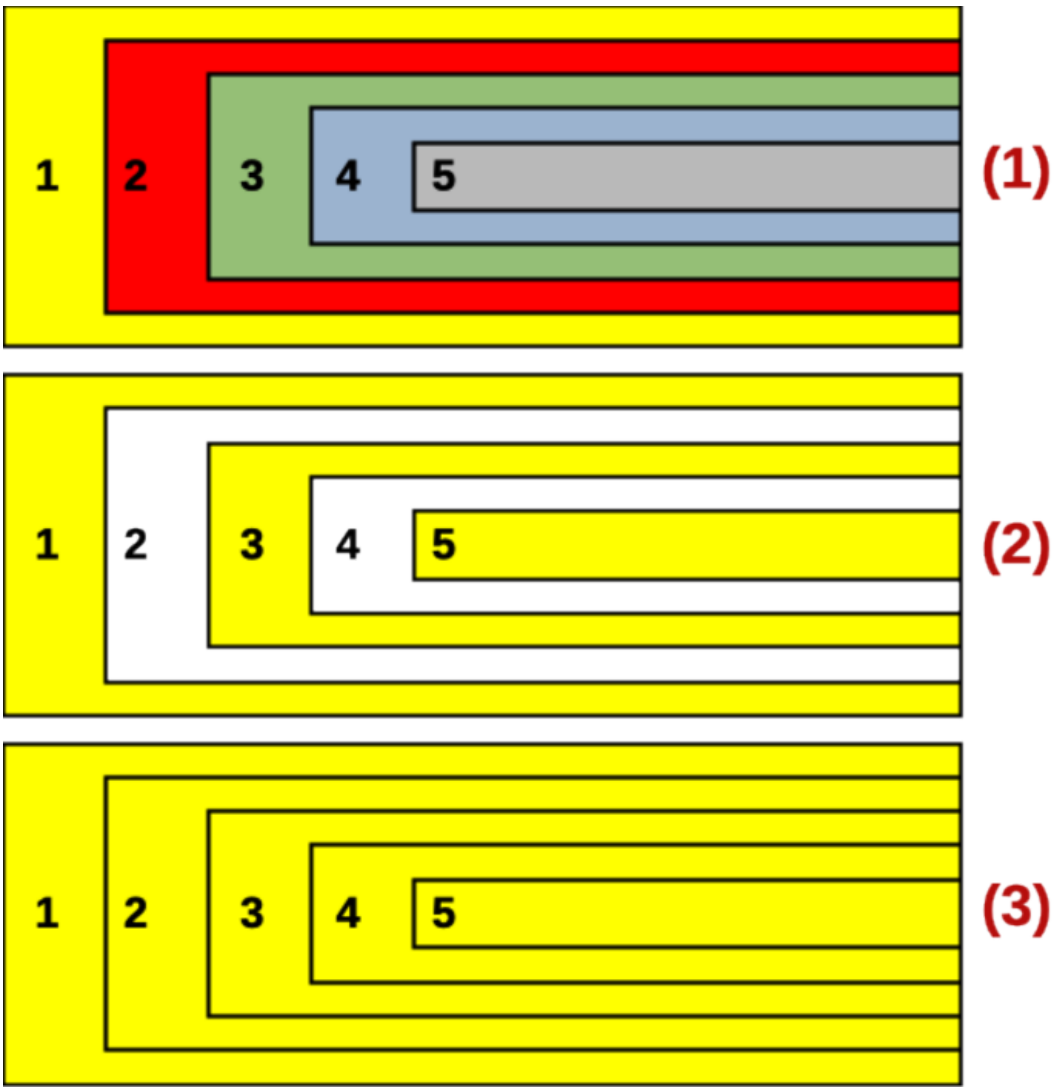

Figure 117: Example of area fill in combing and splitting objects

(1) Overlapping individual objects
(2) Combined individual objects
(3) Splitting combined objects

Combining, splitting, breaking, and connecting

Combining objects

Combining objects is a permanent merging of objects creating a new object. The original objects are no longer available as individual objects and cannot be edited as individual objects.

1) Select several objects that are overlapping each other.
2) Combine the selected objects into a single object using one of the following methods:
   – Right-click on the selection and select **Shapes > Combine** from the context menu.
   – Go to **Shape > Combine** on the Menu bar.
   – Use the keyboard combination *Ctrl+Shift+K* (macOS ⌘+*Shift+K*).

The result of combining objects may not be what is expected, but the following explains how combining objects works.

- The attributes (for example, area fill) of the resulting object are those of the object at the back of the group. In Figure 116, it is the rectangle and in Figure 117 it is the yellow rectangle.
- Where objects overlap, the overlapping zone is either filled or empty depending on whether the overlap is even numbered or odd numbered. Figure 117 shows where the overlap number is even, an empty space is created and where the overlap number is odd, a filled area is created.

Splitting combined objects

An object which has been created from combining several objects can be split into individual objects. However, the original objects retain the formatting of the combined object and do not revert back to their original formatting. Select the combined object and use one of the following methods to split a combined object:

- Go to **Shape > Split** on the Menu bar.
- Use the keyboard shortcut *Ctrl+Alt+Shift+K* (macOS ⌘+⌥+*Shift+K*).

In Figure 117, the individual overlapping objects use Rectangle 1 formatting at the rear of the overlapping objects when a combined object is split.

Breaking objects

An object that consists of more than one part can be broken into its individual parts as follows. For example, a star is broken into separate lines and the area fill is lost, as shown by the center graphic in Figure 118.

1) Select an object that consists of more than one part.
2) Convert the object to a curve or polygon using one of the following methods:
   – Go to **Shape > Convert > To Curve** or **To Polygon** on the Menu bar.
   – Right-click on the object and select **Convert > To Curve** or **To Polygon** on the context menu.
3) Go to **Shape > Break** on the Menu bar and the object is broken into individual parts.
4) Move, format or delete the individual parts as necessary, as shown by the right object in Figure 118.

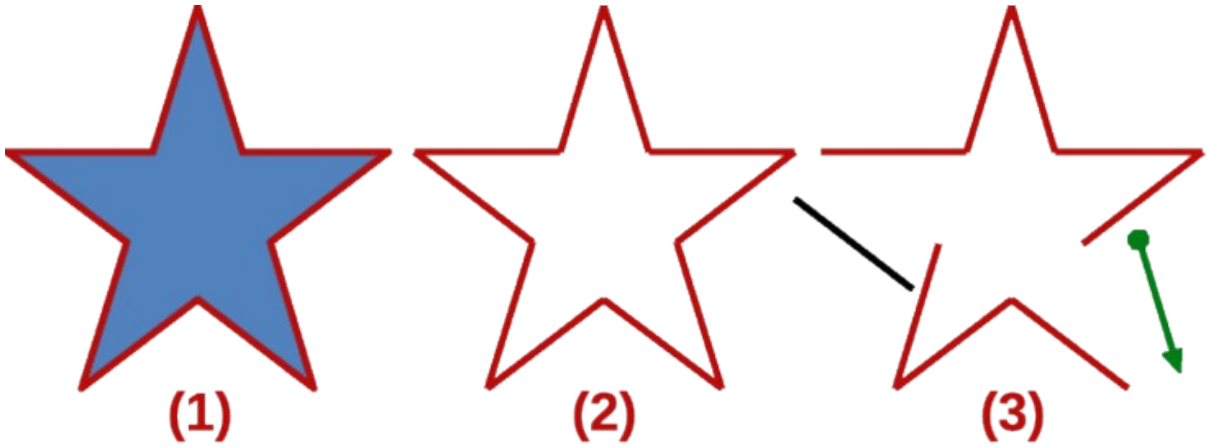

Figure 118: Example of breaking objects

(1) Original object (2) Object broken (3) Individual parts edited

Connecting lines

The individual parts of an object or individual objects can be connected together as follows:

1) Select all the objects that are going to be connected.
1) Go to **Shape > Connect** on the Menu bar. Individual lines or lines in a border are converted to curves and the end points of each line connected.

Closing objects

1) Select an object that has a gap in its border.
2) Right-click on the selected object and select **Close Object** from the context menu to close the gap.
3) Format the area fill created to requirements. See Chapter 4, Changing Object Attributes for more information on working with area fills.

Note

The shape created when connecting individual parts or lines is not a closed shape. The new shape has to be closed to create an area fill.

Merging, subtracting, or intersecting objects

After selecting more than one object, the merge, subtract, and intersect functions become available allowing creation of a new object with a new shape.

Merge

When merging objects, a new object is created with a shape that follows the shape of the merged objects. The area fill of the merged object is determined by the area fill of the object that is at the rear of all the other objects, as shown in Figure 119.

After selecting several objects, use one of the following methods to merge the objects:

- Go to **Shape > Merge** on the Menu bar.
- Right-click on the selected objects and select **Shapes > Merge** from the context menu.

Subtract

When subtracting objects, the objects at the front are subtracted from the object behind. This leaves a blank space the subtracted objects occupied creating a new shape, as shown in Figure 120. After selecting several objects that overlap each other, use one of the following methods to subtract objects:

- Go to **Shape > Subtract** on the Menu bar.
- Right-click on the selected objects and select **Shapes > Subtract** from the context menu.

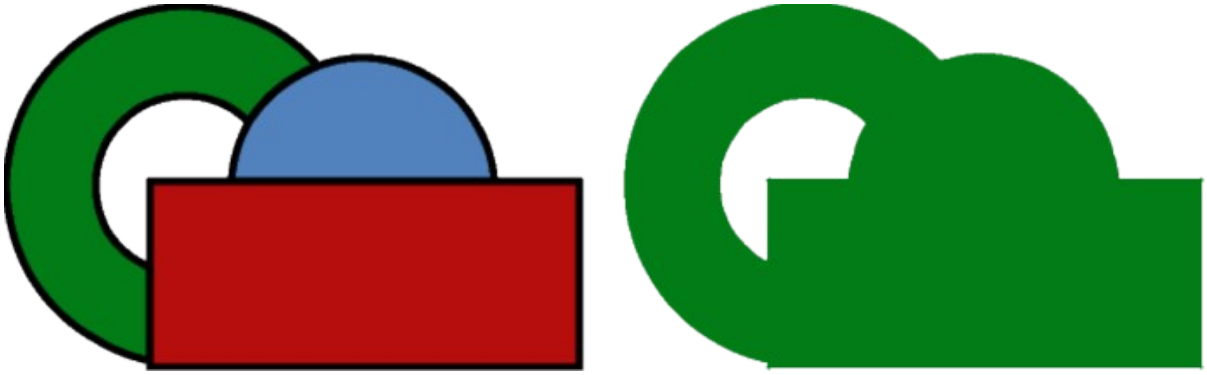

Figure 119: Example of merging objects

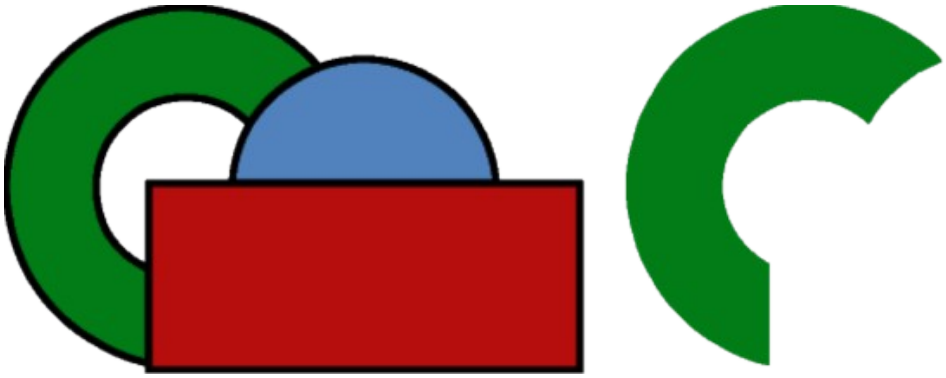

Figure 120: Example of subtracting objects

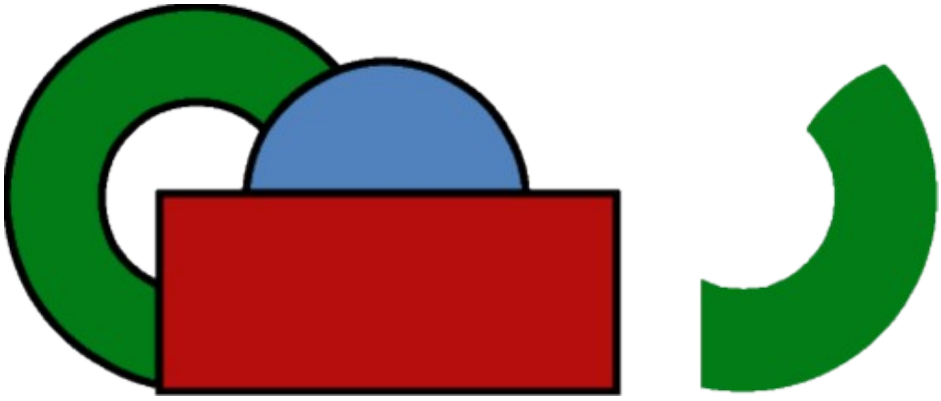

Figure 121: Example of intersecting objects

Intersect

When intersecting objects, the front objects and the exposed area of the rear object are removed. This creates a new object from the area of the rear object that was covered by the front objects, as shown in Figure 121. After selecting several objects that overlap each other, use one of the following methods to intersect objects:

- Go to **Shape > Intersect** on the Menu bar.
- Right-click on the selected objects and select **Shapes > Intersect** from the context menu.

Duplication and cross-fading

Duplication

Duplication makes copies of an object while applying a set of changes to the duplicate copies, such as color or rotation.

1) Select an object or group of objects, then use one of the following methods to open the Duplicate dialog (Figure 122):
   – 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 umber of copies, placement, enlargement, and the start and end colors for the duplicate copies.

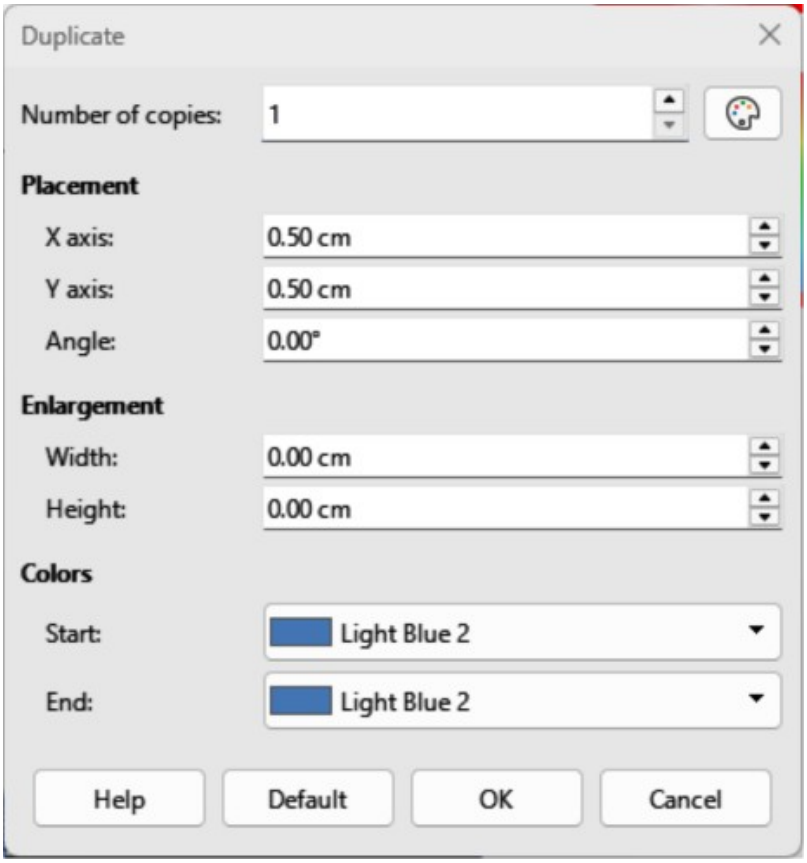

Figure 122: Duplicate dialog

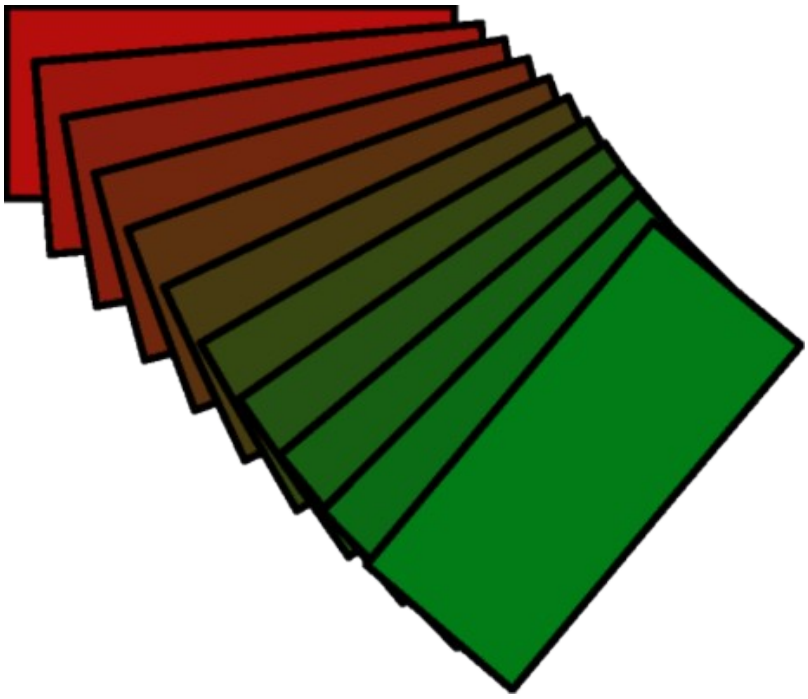

Figure 123: Example of duplication

3) Click **OK** and duplicate copies are created. An example of a duplication is shown in Figure 123. Each duplicate object is a separate object.

4) To group the duplicate objects into one group, see “Who is this user guide for?” on page 8.

5) To combine the duplicate objects into one object, see “Combining, splitting, breaking, and connecting” on page 128.

The following options are available when using the Duplicate dialog:

Number of copies

Enter the number of copies required.

Placement

Sets the position and rotation of duplicated objects in relation to the original object.

X axis

Enter the horizontal distance between centers of a selected object and duplicate objects. Positive values shift the duplicate object to the right and negative values shift the duplicate object to the left.

Y axis

Enter the vertical distance between the centers of a selected object and duplicate objects. Positive values shift the duplicate object down and negative values shift the duplicate object up.

Angle

Enter the angle (0 to 359 degrees) required for rotating a duplicate object. Positive values rotate duplicate objects in a clockwise direction and negative values in a counterclockwise direction.

Enlargement

Sets the size of duplicate objects.

Width

Enter the amount to enlarge or reduce the width of duplicate objects.

Height

Enter the amount to enlarge or reduce the height of duplicate objects.

Colors

Sets the colors for selected objects and duplicate objects. For more than one copy, these colors define the start and end points of a color gradient.

Start

Select a color for a selected object.

End

Select a color for a duplicate object. If making more than one copy, this color is applied to the last copy.

Cross-fading

Cross-fading transforms one object shape into another object shape. The result is a new group of individual objects that includes the start and end objects. The intermediate steps show the transformation from one object shape to another object shape. The cross-fading is carried out from the first object selected to the second object selected.

1) Select two objects and go to **Shape > Cross-fading** on the Menu bar to open the Cross-fading dialog (Figure 124).
2) In **Settings**, select the number of Increments for the transformation.
3) If necessary, in **Settings**, select *Cross-fade attributes* and *Same orientation*.

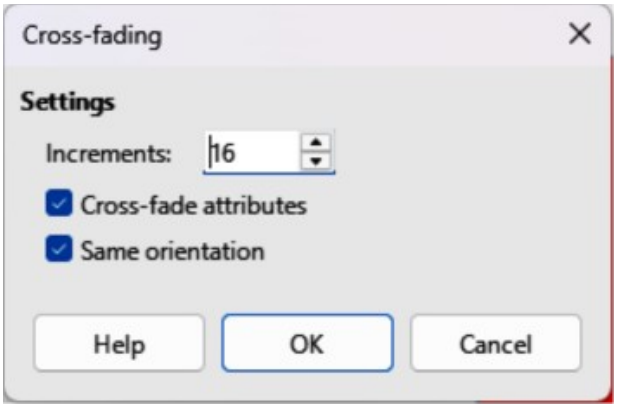

Figure 124: Cross-fading dialog

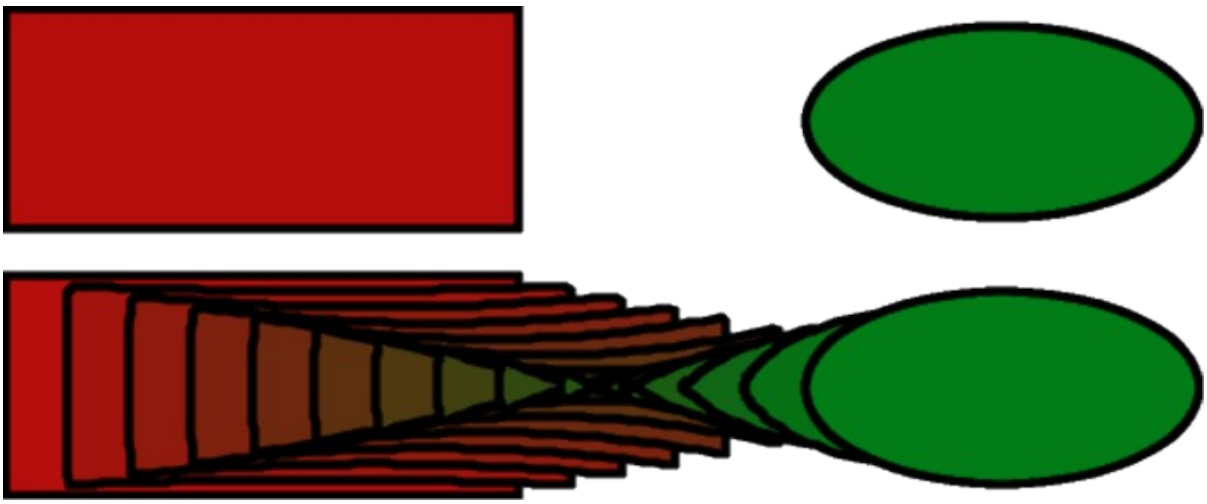

Figure 125: Example of cross-fading objects

4) Click **OK** to cross-fade the selected objects and close the Cross-fading dialog. An example of cross-fading is shown in Figure 125 with *Same orientation* deselected. The object created is a group of objects.

5) To ungroup this group of objects and use the individual objects, see “Ungrouping” on page 125.

The following options are available in the Cross-fading dialog:

Increments

Enter the number of steps created between the selected objects.

Cross-fade attributes

Applies cross-fading to the line and fill properties of the selected objects. For example, if the selected objects are filled with different colors, a color transition between the two colors is applied.

Same orientation

Applies a smooth transition between the selected objects.

Positioning objects

Arranging objects

When combining, merging, subtracting, or intersecting objects, the end result varies depending on which object is at the front and which object is at the back. Each new object placed on a drawing automatically becomes the front object and all the other objects move backwards in positioning order. Arranging objects changes the order of a group of objects. To change the arrangement position of an object, select one or more objects and then use one of the following methods

- Right-click on the selected object(s), then select **Arrange** from the context menu and one of the available options.
- Click on the triangle ▼ to the right of **Arrange** on the Standard toolbar to open the Position subtoolbar (Figure 126) and select one of the available tools.
- Click one of the arrangement tools on the Line and Filling toolbar.
- Click on **Shape > Arrange** on the Menu bar and select an arrangement option.
- Use the *Arrange* tools in **Position and Size** panel in the Properties deck on the Sidebar.
- Use a keyboard shortcut available for each arrange option.

The arrangement options available are as follows:

Bring to Front

Brings the selected object to the front of a group of objects (*Shift*+*Ctrl*++) (macOS ⌘+*Shift*++).

Bring Forward

Brings the selected object forward one step (*Ctrl*++) (macOS ⌘++).

Figure 126: Position subtoolbar

Send Backward

Sends the selected object one step backward (*Ctrl*+–) (macOS ⌘+–).

Send to Back

Sends the selected object to the back of a group of objects (*Shift*+*Ctrl*+–) (macOS ⌘+*Shift*+–).

In Front of Object

Moves the selected object in front of another selected object.

Behind Object

Moves the selected object behind another selected object.

Reverse

Reverses the order of the selected objects. This tool is grayed out if only one object is selected.

Aligning objects

To make a drawing look more professional, objects can be aligned with each other. Select one or more objects and use one of the following methods to align objects:

- Right-click on the selected object(s), then select **Align Objects** from the context menu and one of the available options.
- Click on one of the alignment tools on the Line and Filling toolbar.
- Go to **Shape > Align Objects** on the Menu bar and select the alignment required.
- Use the *Align* tools in the **Position and Size** panel in the Properties deck on the Sidebar.
- Go to **View > Toolbars** on the Menu bar and select **Align Objects** to open the Align Objects toolbar (Figure 127).

The alignment tools available are as follows:

Left

Aligns the left edges of the selected objects. If only one object is selected, the left edge of the object is aligned to the left page margin.

Centered

Horizontally centers the selected objects. If only one object is selected, the center of the object is aligned to the horizontal center of the page.

Right

Aligns the right edges of the selected objects. If only one object is selected, the right edge of the object is aligned to the right page margin.

Top

Vertically aligns the top edges of the selected objects. If only one object is selected, the top edge of the object is aligned to the top page margin.

Center

Vertically centers the selected objects. If only one object is selected, the center of the object is aligned to the vertical center of the page.

Bottom

Vertically aligns the bottom edges of the selected objects. If only one object is selected, the bottom edge of the object is aligned to the bottom page margin.

Figure 127: Align Objects toolbar

Figure 128: Distribute Selection toolbar

Distributing objects

Distributing objects allows three or more objects to be evenly spaced along a horizontal or vertical axis. Objects are distributed using the outermost objects as base points for spacing. Select at least three objects, then use one of the following methods to distribute the objects:

- Right-click on the selected objects, then select **Distribute Selection** from the context menu and one of the available options.
- Go to **View > Toolbars** on the Menu bar and select **Distribute Selection** to open the Distribute Selection toolbar (Figure 128).
- Go to **Shape > Distribute Selection** on the Menu bar and select a distribution option.
- Right-click on the selected objects and select **Distribute Selection** from the context menu, then select a distribution option.

The distribution options available are as follow:

Horizontal Left

Distributes the selected objects so that the left edges of the objects are evenly spaced from one another.

Horizontal Center

Distributes the selected objects so that the horizontal centers of the objects are evenly spaced from one another.

Horizontal Spacing

Distributes the selected objects horizontally so that the objects are evenly spaced from one another.

Horizontal Right

Distributes the selected objects so that the right edges of the objects are evenly spaced from one another.

Vertical Top

Distributes the selected objects so that the top edges of the objects are evenly spaced from one another.

Vertical Center

Distributes the selected objects so that the vertical centers of the objects are evenly spaced from one another.

Vertical Spacing

Distributes the selected objects vertically so that the objects are evenly spaced from one another.

Vertical Bottom

Distributes the selected objects so that the bottom edges of the objects are evenly spaced from one another.

Draw Guide 24.8

Chapter 6, Editing Images

Introduction

Previous chapters in this Draw Guide provide information on vector graphics and the most common types of vector graphics in use are as follows:

SVG (Scalable Vector Graphics)

An Extensible Markup Language (XML) based vector image format for two-dimensional graphics with support for interactivity and animation.

EPS (Encapsulated PostScript)

A PostScript document format usable as a graphics file format. EPS files are self contained, PostScript documents that describe an image or drawing and can be placed within another PostScript document.

AI (Adobe Illustrator)

A proprietary file format developed by Adobe Systems for representing single-page vector-based drawings in either the EPS or PDF formats.

However, Draw has several functions for handling raster graphics or bitmaps, for example photographs and scanned pictures. This includes import, export, and conversion from one graphic format to another graphic format. Draw can open the majority of graphic file formats using capabilities similar to raster graphics programs like Gimp or Adobe Photoshop. Raster graphics are generally images or pictures that use the most common formats in use:

JPG/JPEG (Joint Photographic Experts Group)

JPEG is the most common image format on websites and most digital cameras produce JPEG images as default.

GIF (Graphics Interchange Format)

GIF is a bitmap image format that is popular because of its wide support and portability.

PNG (Portable Network Graphics)

PNG is a raster image format which supports lossless data compression and also background transparency.

TIF/TIFF (Tagged Image File Format)

TIFF is flexible, adaptable, and capable of storing image data in a lossless format.

BMP (BitMaP)

Also known as bitmap image file, which is a dot matrix data structure.

Importing graphics and images

Inserting

To import graphic or image files into a drawing, go to **Insert > Image** on the Menu bar to open the Insert Image dialog (Figure 129).

Draw contains import filters for the majority of graphic formats. If the file being imported uses a graphic format not compatible with LibreOffice import filters, it is recommended to use a free graphic conversion program to convert the file into a graphic format that Draw recognizes.

If **Preview** is selected, a preview of the file is shown on the right-hand side of the Insert Image dialog. This makes it easier to select the file required and makes sure that Draw can import the graphic file format used.

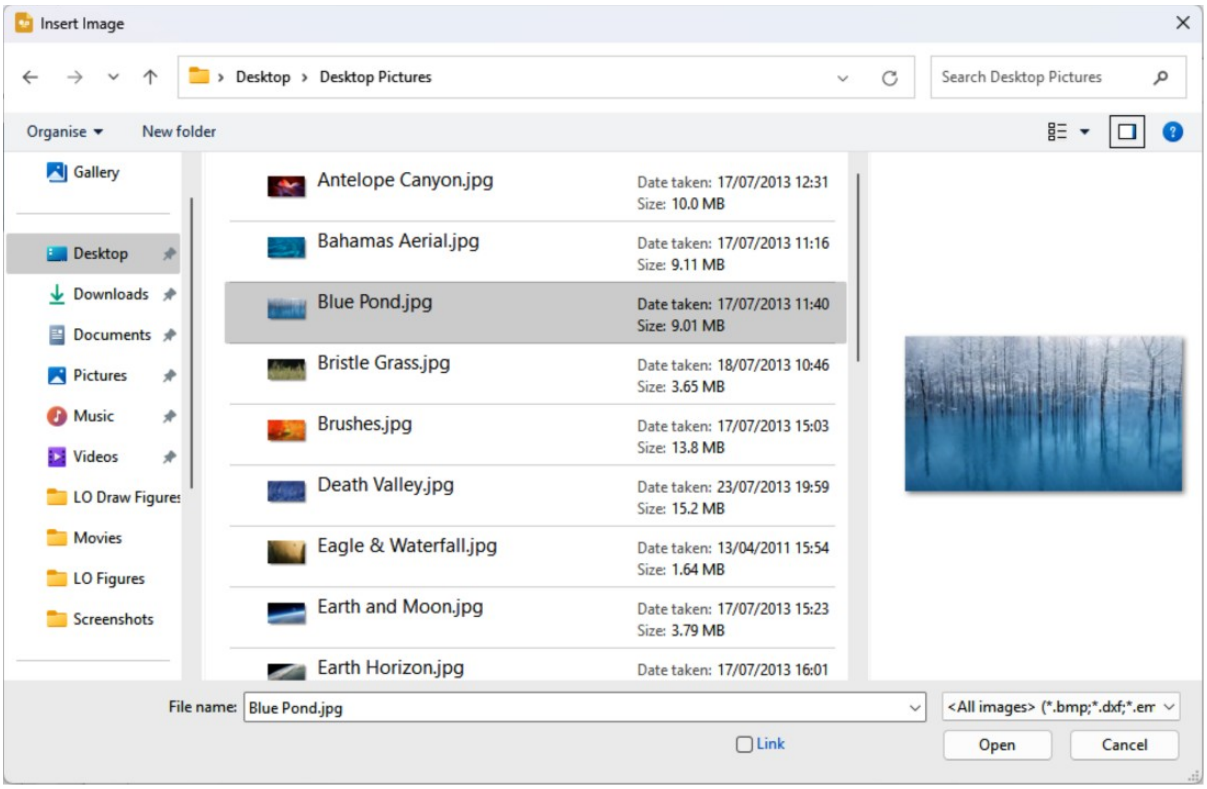

Figure 129: Insert Image dialog

Embedding

Embedding graphics into a drawing makes graphics a permanent part of the drawing. Any changes made to an embedded graphic only appear in a LibreOffice drawing where the graphic has been embedded. The original graphic file is not affected. Embedding is importing a graphic into a drawing using one of the following methods:

- Insert Image dialog.
- Copying and pasting.
- Scanning a graphic.
- Dragging and dropping between open files.

The main advantage of embedding graphics into a drawing is that a graphic is always available no matter what computer is used to open the drawing.

The main disadvantage of embedding graphics is that it creates large file sizes, which may create storage problems if there is limited storage capacity on the computer. Also, if the original graphic is altered, the embedded graphic is not updated each time the LibreOffice drawing is opened.

Note

When a graphic is embedded into a LibreOffice drawing, make sure that **Insert as Link** is not selected in the Insert Image dialog.

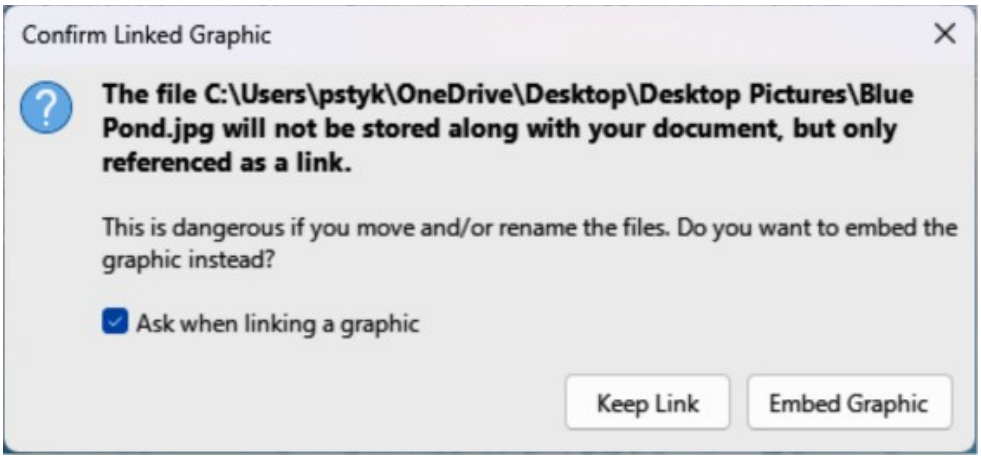

Figure 130: Confirm Linked Graphic dialog

Linking

Linking to an original graphic does not insert the graphic into a drawing, but creates a link to the location of an original graphic file. Each time a LibreOffice drawing is opened, any linked graphics are displayed in the drawing.

The main advantage of linking graphic files is that if the original graphic file is altered or modified, opening a LibreOffice drawing automatically updates the linked graphic. Also the file size of a LibreOffice drawing is smaller and the original graphic is easily edited with specialized external applications.

The main disadvantage of linking graphics is that the link must be maintained between a LibreOffice drawing and the embedded graphic file for a link to work correctly. If the original drawing or graphic file is moved to another computer location, then any links must be updated to include the new location.

1) Open the Insert Image dialog.
2) Select **Insert as Link** in the Insert Image dialog.
3) Select the required graphic or image file and click on **Open** to open the Confirm Linked Graphic dialog (Figure 130).
4) Click on **Keep Link** to link the file and close the Confirm Linked Graphic dialog.
5) If required, click on **Embed Graphic** to embed the file instead of linking the file. This also closes the Confirm Linked Graphic dialog.

Note

When a graphic or image file is linked in a LibreOffice drawing, the file format of the linked graphic or image is not changed.

Editing links

1) Go to **Edit > External Links** on the Menu bar to open the Edit Links dialog (Figure 131) and select the link to be edited.
2) Click on **Modify**, **Break Link**, or **Update** as appropriate.
   – **Modify** — allows changes to the selected link that is between the graphic file in the current drawing and the source file.

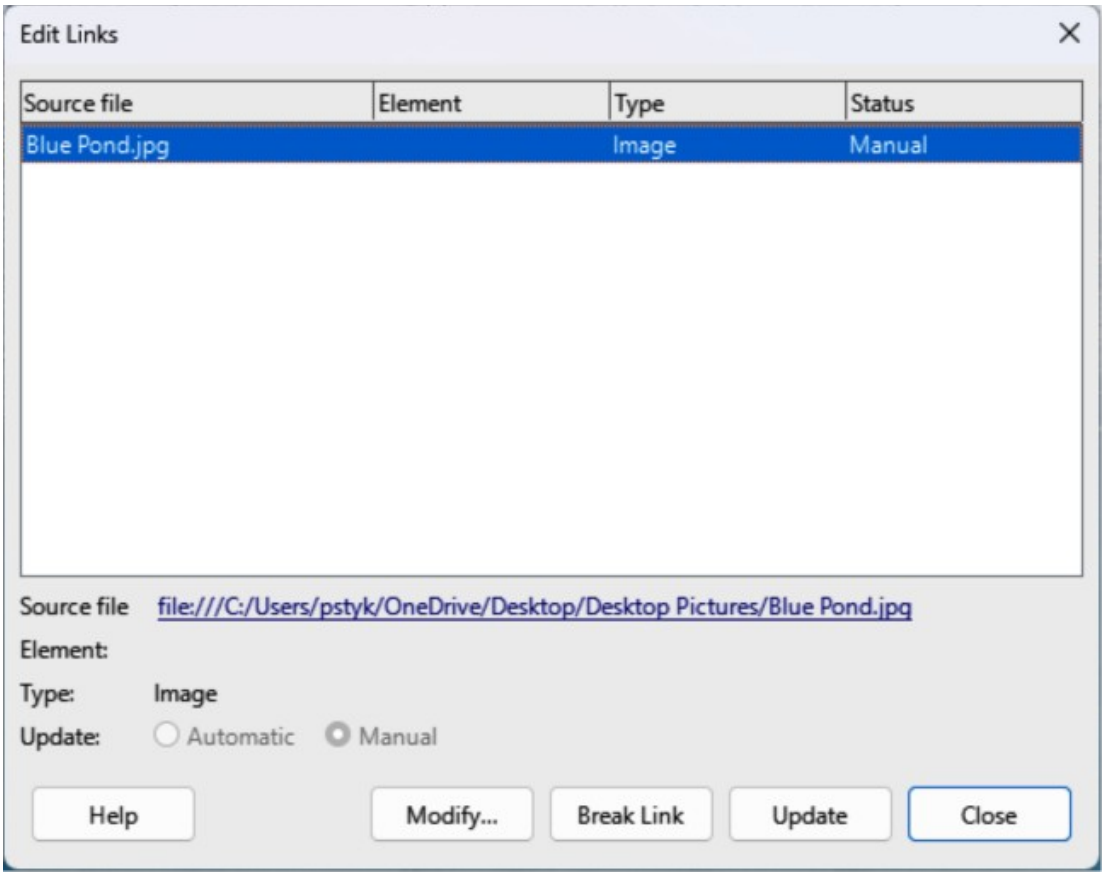

Figure 131: Edit Links dialog

– **Break Link** — breaks the link between the selected linked graphic file and the current document. The graphic file version in the drawing becomes embedded into the drawing. A confirmation dialog opens asking if the link is to be broken. Click on Yes to confirm the breaking of the link.

– **Update** — updates the selected link so that the most recent version of the linked graphic file is displayed in the drawing.

3) Click on **Close** to save the changes to the link and close the Edit Links dialog.

Scanning

After scanning, scanned graphics and images are inserted and embedded using PNG format into a LibreOffice drawing. To insert scanned images, make sure the scanner is configured for the computer and supported by SANE for a Linux operating system, or TWAIN for a Windows or macOS.

The following procedure is an example only. The actual scanning procedure depends on the scanner type, software and computer operating system. Consult the scanner documentation for more information.

1) Place a document, drawing, or photograph in the scanner and make sure that the scanner is switched on and ready, then use one of the following procedures:

   – If this is the first time the scanner has been used with LibreOffice, go to **Insert > Media > Scan > Select Source** on the Menu bar to select the scanner.

   – If the scanner has been used before, go to **Insert > Image > Scan > Request** on the Menu bar.

2) Specify the scanning resolution, subject type being scanned, subject size and so on.

3) When the image has been scanned, Draw places it in the LibreOffice drawing. The scanned image can then be edited like any other graphic or image.

Note

If more than one scanner is connected to the computer, the scanner is selected when the source is selected. This selection becomes the default source for scanning until another scanner is selected and used as the scanning source.

Copying and pasting

Copying and pasting a graphic also embeds a graphic or image file into a LibreOffice drawing. A copied graphic can be an image already embedded in another document or drawing, or a graphic file such as a drawing, document, or photograph.

1) After copying the graphic file, go to **Edit > Paste Special > Paste Special** on the Menu bar to open the Paste Special dialog.
2) Select the required format for pasting the copied graphic into a LibreOffice drawing. Available formats for pasting depend on the type of file copied onto the clipboard.
3) Click **OK** to paste the graphic file and close the Paste Special dialog.

Note

When copying and pasting images into a LibreOffice drawing, respect the copyright and license of any file being copied.

Exporting images

Exporting ODG files

By default Draw saves drawings in the Open Document format ODG and some software programs are not compatible with the ODG format. To make drawings compatible with other software applications, an ODG file can be exported in several formats. The export procedure used depends on the computer setup and computer operating system being used. The following procedure is an example export procedure.

1) Open the ODG file being exported.
2) Go to **File > Export** on the Menu bar and open the Export dialog. An example export dialog is shown in Figure 132.
3) Enter a filename for the exported file and navigate to the folder where the exported file is to be saved.
4) Select the required file format from the options in the drop-down list.
5) Click **Export** and the file is exported as a new file in the selected file format.
6) Depending on the file format selected, another dialog may open allowing options to be selected for the export format.
7) Depending on the additional dialog that may open, click on **Export**, **Create**, or **OK** and the file is exported as a new file in its new format.

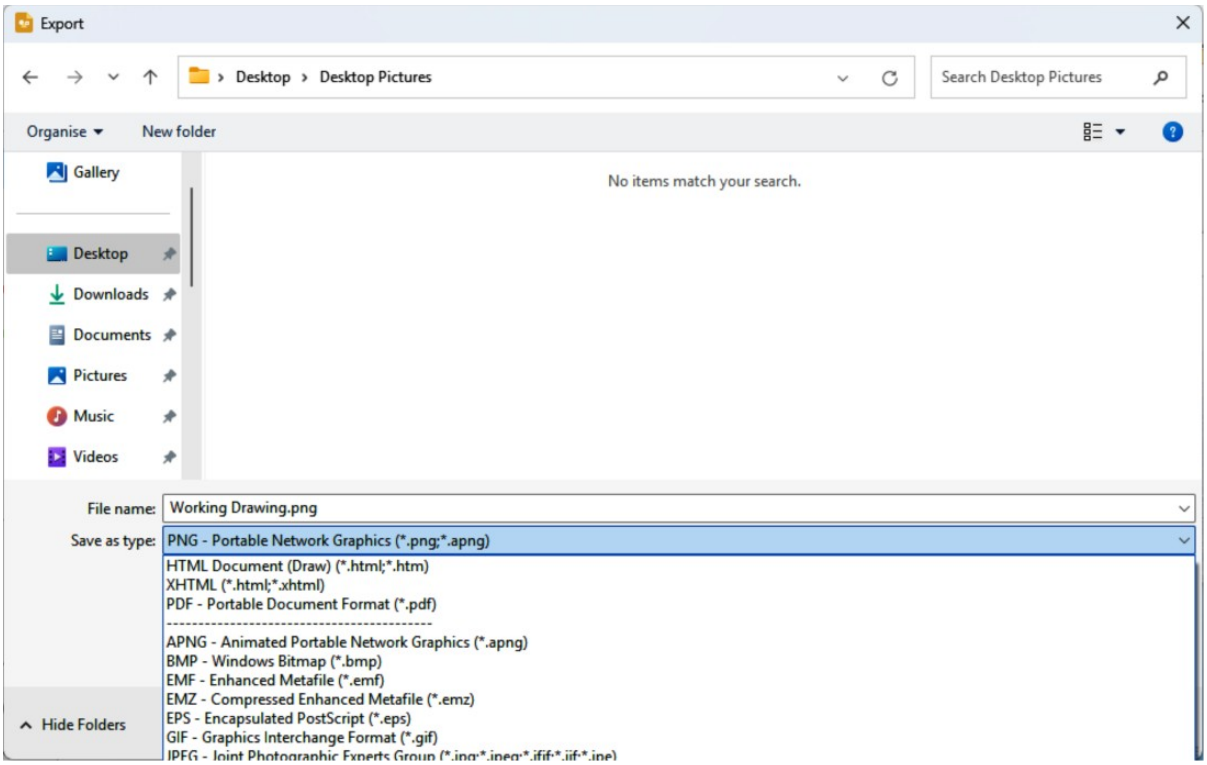

Figure 132: Example export dialog

Figure 133: Example of Export Options dialog

Exporting graphics or images

Exporting individual graphics or images, or a group of graphics or images, from a drawing file is similar to exporting files. The following export procedure is an example. Actual procedure depends on computer operating system and computer setup.

1) Open the ODG file that contains the graphic or images for export.
2) In the ODG file, select the graphics or images for export.
3) Go to **File > Export** on the Menu bar and open the Export dialog. An example export dialog is shown in Figure 132.
4) Enter a filename for the exported file and navigate to the folder where the exported file is to be saved.
5) Click on **Selection** in the Export dialog. Selecting may open an example options dialog as shown in Figure 133.
6) Enter the required options in the options dialog and click **OK** to export the file to the selected destination. There is no confirmation of export.

Formatting images

Images (raster graphics) are edited and formatted to add or change filters and adjust the properties of color, lines, areas, and shadows using one of the following methods:

- Go to **Format > Image** on the Menu bar and use the tools in the sub-menu that opens.
- Use the tools on the Image toolbar (Figure 134).
- Use the tools available in the **Image** panel on the Properties deck of the Sidebar.
- Some raster graphics may have a text element. For more information on formatting text, see Chapter 9, Adding and Formatting Text.

Note

Formatting changes made to a graphic using LibreOffice tools only appear in the drawing where the graphic was modified. Original graphic file is not affected. Raster graphics included in a group behave like other objects when the properties of the group are edited and formatted.

Naming images

Draw names objects using the insertion order into a drawing, for example Shape 1, Shape 2, and so on. It is recommended to rename objects using a unique name. Names make objects and images easily identifiable in the Navigator.

1) Select an image, then use one of the following methods to open the Name dialog and create a unique name for the selected image:
   - Go to **Format > Name** on the Menu bar.
   - Right-click on the image and select **Name** from the context menu.
2) Enter a name in the *Name* text box in the Name dialog that opens and click **OK**.

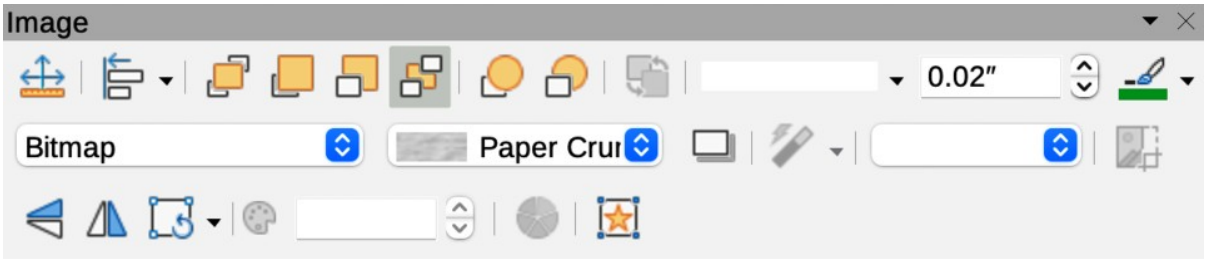

Figure 134: Image toolbar

Image toolbar

The Image toolbar (Figure 134) appears when an image or raster graphic object is selected. For more information on the Image toolbar and the available tools, see Appendix B, Toolbars. The tools listed below for the Image toolbar are an example only.

Position and Size (F4)

Opens the Position and Size dialog. See Chapter 3, Working with Objects for more information.

Align Objects

Opens a subtoolbar giving access to alignment tools for aligning selected objects in relation to each other. See Chapter 5, Combining Multiple Objects for more information.

Bring to Front

Brings the selected object to the front of a group of objects (*Ctrl*+*Shift*++) (macOS ⌘+*Shift*++).

Bring Forward

Brings the selected object forward one step (*Ctrl*++) (macOS ⌘++).

Send Backward

Sends the selected object one step backward (*Ctrl*+–) (macOS ⌘+–).

Send to Back

Sends the selected object to the back of a group of objects (*Ctrl*+*Shift*+–) (macOS ⌘+*Shift*+–).

In Front of Object

Moves the selected object in front of another selected object.

Behind Object

Moves the selected object behind another selected object.

Reverse

Reverses the order of the selected objects. This tool is grayed out if only one object is selected.

Line Style

Opens a drop-down list with different line styles used for the outline of the border. See Chapter 4, Changing Object Attributes for more information.

Line Width

Used to change the width of a line. See Chapter 4, Changing Object Attributes for more information.

Line Color

Used to change the color of a line. See Chapter 4, Changing Object Attributes for more information.

Area Style/Filling

Used to change the type of filling used in a shape. See Chapter 4, Changing Object Attributes for more information.

Shadow

Sets the default shadow effect around the picture. The shadow attributes are adjusted using the **Shadow** panel in the Properties deck on the Sidebar. See Chapter 4, Changing Object Attributes for more information.

Filter

Opens the Image Filter toolbar which is described in “Image filters” on page 153.

Image Mode

Changes the display of the image from color to grayscale, black and white, or a watermark. This setting affects only the display and printing of the image; the original image file remains unchanged. The image mode setting can also be changed using *Color mode* in the **Image** panel in the Properties deck on the Sidebar (Figure 135).

Default

Image is displayed unaltered in color.

Grayscale

Image is displayed in 256 shades of gray.

Black/White

Image is displayed in black and white.

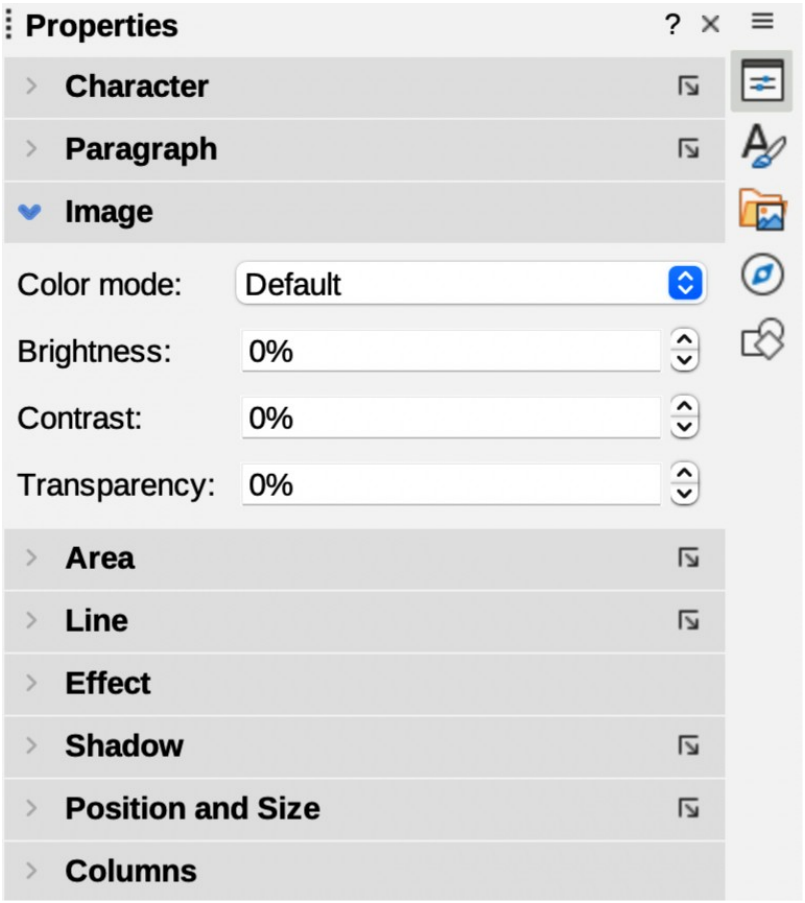

Figure 135: Image panel in Properties deck on Sidebar

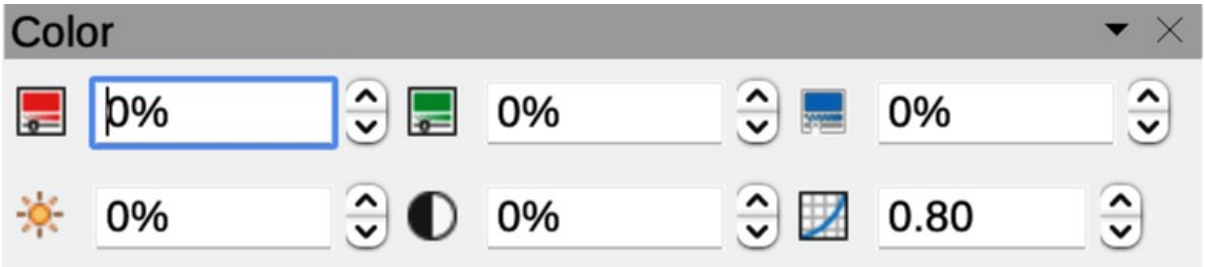

Figure 136: Color subtoolbar

Watermark

Color, brightness, contrast, and gamma settings are reduced so that the image can be used as a watermark (background). The default settings for *Watermark* can be adjusted using the Color subtoolbar (Figure 136).

Crop Image

Crops or trims an image. When using this tool, crop marks appear around the image. Drag one or more of these marks to crop the image to the desired size. For more information on cropping, see “Cropping images” below.

Vertically

Flips the selected object vertically. See Chapter 4, Changing Object Attributes for more information.

Horizontally

Flips the selected object horizontally. See Chapter 4, Changing Object Attributes for more information.

Transformations

Opens the Transformations toolbar. See Chapter 4, Changing Object Attributes for more information.

Transparency

Adjusts the degree of transparency of the image between 0% (opaque) and 100% (fully transparent). The transparency setting can also be adjusted using the Image panel in the Properties deck on the Sidebar.

Color

Opens the Color subtoolbar (Figure 136) to adjust the values of the RGB colors, brightness, contrast, and Gamma. These adjustments do not affect the original image, but the values are stored in LibreOffice Draw as a separate formatting set. The color settings can also be adjusted using the **Image** panel in the Properties deck on the Sidebar.

Red, Green, Blue

Select values between –100% (no color) to +100% (full intensity); 0% represents the original color value of the image.

Brightness

Select a value between –100% (totally black) and +100% (totally white).

Contrast

Select a value between –100% (minimum) and +100% (maximum).

Gamma

Affects the brightness of the middle color tones. Select a value between 0.10 (minimum) to 10 (maximum) Try adjusting this value if changing brightness or contrast does not give the required result.

Cropping images

Cropping is a method of hiding unwanted areas of an image or changing the size of an image in a drawing. Changes made when cropping an image only change the display of the image in a drawing and not the original image file.

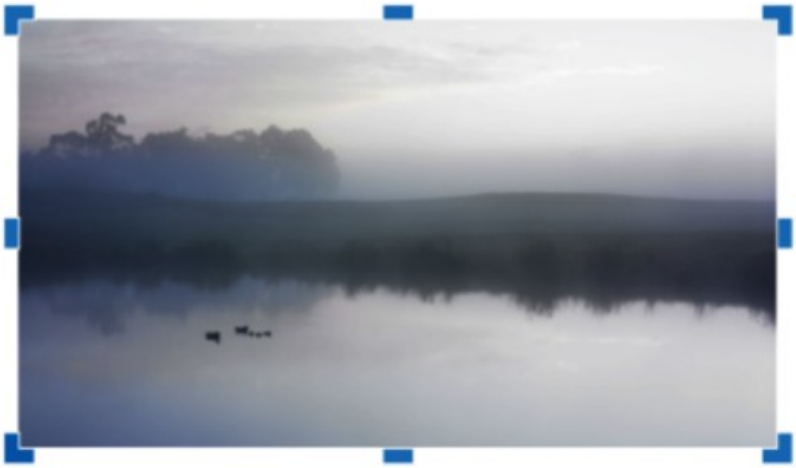

Figure 137: Example image in crop mode

Quick cropping

After selecting an image, it can be cropped quickly using one of the following methods:

- Click on **Crop Image** on the Standard or Image toolbar.
- Go to **Format > Image > Crop** on the Menu bar.
- Right-click on the image and select **Crop** from the context menu.

Selection handles appear around the selected image, as shown in the example in Figure 137.

The image is cropped as follows:

- Top, bottom, left, and right selection handles crop the image in one direction only.
- Corner selection handles crop the image vertically and horizontally in two directions.
- To maintain the ratio between vertical and horizontal dimensions, hold down the *Shift* key while moving a selection handle.

Crop dialog

For more control and accuracy over the cropping functions, it is recommended to use the Crop dialog (Figure 138). Select an image and go to **Format > Image > Crop Dialog** on the Menu bar to open the Crop dialog.

Crop

Trim or scale the selected image, or add white space around the image.

Keep scale

Maintains the original scale of the image when cropping so that only the size of the image changes.

Keep image size

Maintains the image original size when cropping so that only the image scale changes. To reduce the image scale, select this option and enter negative values in the cropping boxes. To increase the image scale, enter positive values in the cropping boxes.

Left and Right

If *Keep scale* is selected, enter a positive amount to trim the left or right edge of the image, or a negative amount to add white space to the left or right of the image. If *Keep image size* is selected, enter a positive amount to increase the image horizontal scale, or a negative amount to decrease the image horizontal scale.

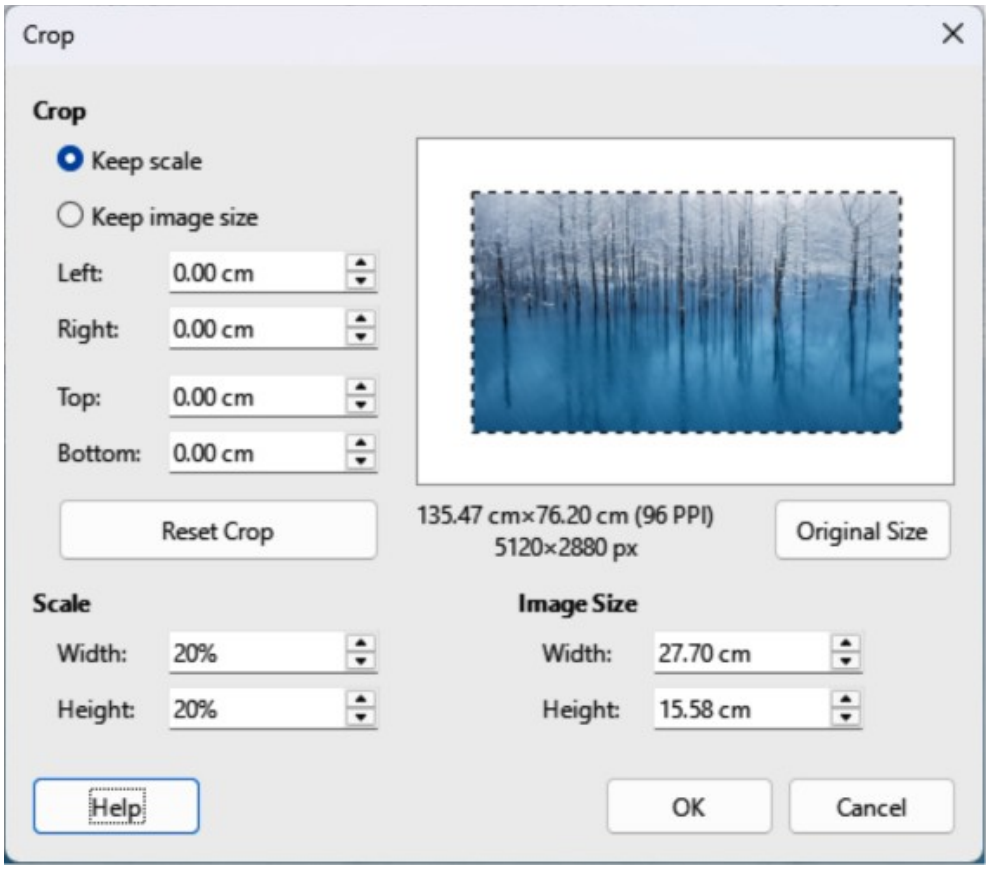

Figure 138: Crop dialog

Top and Bottom

If *Keep scale* is selected, enter a positive amount to trim the image top or bottom, or a negative amount to add white space above or below the image. If *Keep image size* is selected, enter a positive amount to increase the image vertical scale, or a negative amount to decrease the image vertical scale.

Scale

Used to change the image scale as it appears in a drawing.

Width

Enter a percentage value to change the image width.

Height

Enter a percentage value to change the image height.

Image Size

Used to change the image size.

Width

Enter a value for the image width.

Height

Enter a value for the image height.

Original Size

Original size of the image is displayed above the option. Clicking on this option and then clicking **OK** resets the selected image to its original size.

Note

In the Crop dialog, the *Width* and *Height* are treated as independent values. Changing one without the other can result in significant distortion of the image and this may not be what is required.

Exporting cropped images

If a cropped image is to be used in another drawing, use one of the following methods after selecting the cropped image.

Using Export dialog

1) Select the cropped image.
2) Go to **File > Export** on the Menu bar to open the Export dialog.
3) Navigate to the destination folder, then enter a filename.
4) Click on **Selection**, then click on **Export**. See “Exporting images” on page 144 for more information.

Using Save

1) Select the cropped image.
2) Go to **Format > Image > Save** on the Menu bar or right click on the cropped image and select Save from the context menu.
3) Click on **Yes** to save the modified image and open an Image Export dialog.
4) Select the file format required, navigate to the destination folder, and enter a filename.
5) Click on **Save** to save the cropped image.

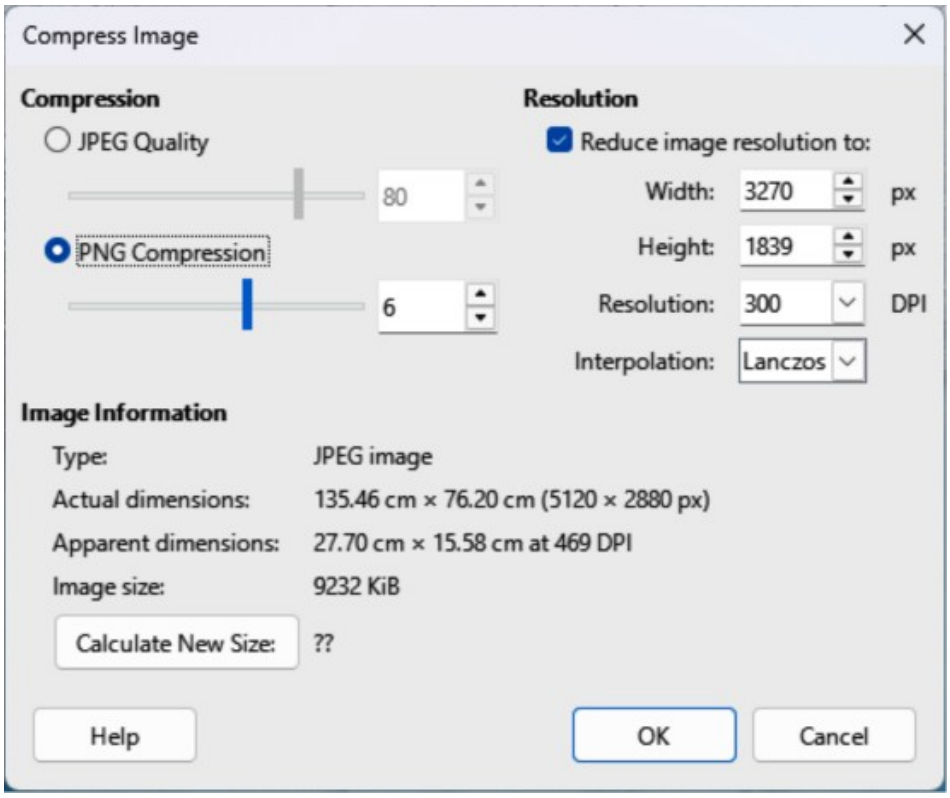

Figure 139: Compress Image dialog

Compressing images

If a large image is inserted into a drawing and resized to fit into the layout of the drawing, the complete full-size original image is stored in the drawing file. This preserves the original image, possibly resulting in a large file to store or send by mail.

If some loss of image quality can be accepted, the image can be compressed using the following procedure. This reduces the data volume while preserving the display in the page layout.

1) Open the Compress Image dialog (Figure 139) using one of the following methods:
   – Right-click on the image and select **Compress** from the context menu.
   – Go to **Format > Image > Compress** on the Menu bar.
2) Select the type of compression and the resolution required.
3) Click on **Calculate New Size** to update the image information when the **Compression** and **Resolution** settings are changed.
4) When satisfied with the new settings, click **OK** to apply the settings.
5) If the resulting image is not acceptable, use one of the following methods to undo the changes and select another compression setting.

Image filters

Draw has eleven filter effects that can be applied to selected images and these image filters can be combined. Filters always apply to the entire image and it is not possible to use filters on only part of the image.

Notes

If an image is embedded into a drawing, any image filters are only applied directly to the embedded image and the original image file is not changed. Save the drawing to retain any filter effects applied to the embedded image in a drawing.

After a drawing is saved and closed, the effects of image filters become permanent. If image filter effects are not satisfactory, use **Edit > Undo** on the Menu bar to cancel the filter effects BEFORE saving the drawing.

When applying image filters to an image, the file size of the image must be taken into account. On large file sizes, there is a time lag between applying an image filter and the effect to become visible on the image.

Applying image filters

1) Select an image to open the Image toolbar.
2) Apply an image filter using one of the following methods:
   – Click on **Filter** to open the Image Filter subtoolbar (Figure 140), then select an image filter to apply.

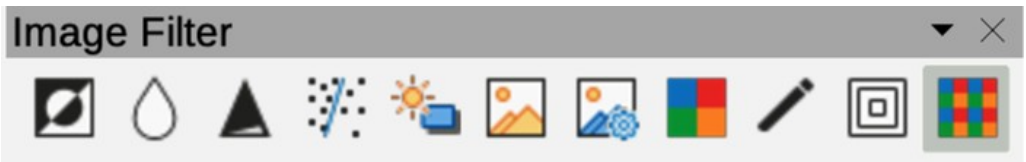

Figure 140: Image Filter subtoolbar

– Go to **Format > Image > Filter** on the Menu bar and select an image filter from the context menu.

Image filters

No image filter

Figure 141 is an example image with no image filters applied.

Invert filter

Inverts or reverses the color values of a color image (similar to a color negative), or the brightness values of a grayscale image. Apply the filter again to revert to the original graphic (Figure 142).

Figure 141: Example image no filter applied

Figure 142: Example image invert filter applied

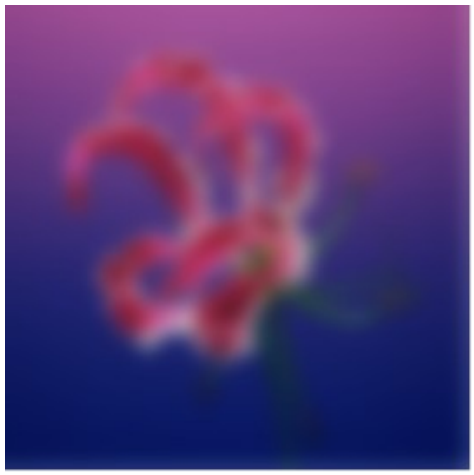

Figure 143: Example image smooth filter applied

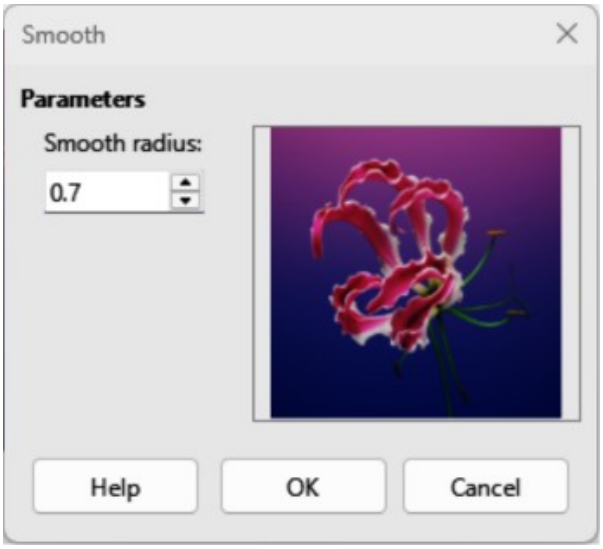

Figure 144: Smooth dialog

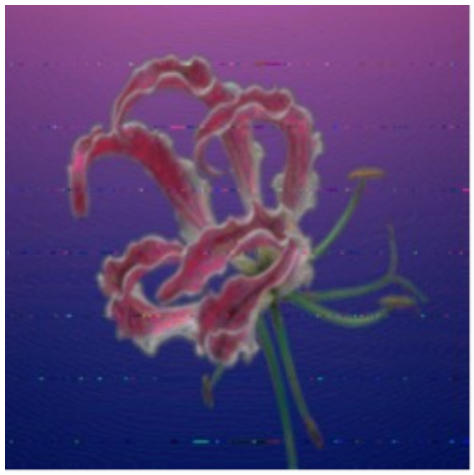

Figure 145: Example image sharpen filter applied

Smooth filter

Softens or blurs the image by applying a low pass filter. This reduces the contrast between neighboring pixels and produces a lack of sharpness making the image appear smoother. The effect of the smooth filter can be very subtle. Figure 143 shows the effect of applying a Smooth radius of 15 to an image.

Selecting this filter opens the Smooth dialog (Figure 144) where the smooth radius parameter is set. The preview in the Smooth dialog shows the effect of applying the Smooth filter to an image.

Sharpen filter

Sharpens the image by applying a high pass filter, adjusting the contrast between neighboring pixels. The effect increases if the filter is applied several times making the colors appear faded, as shown by the example in Figure 145.

Remove Noise filter

Removes noise by applying a median filter comparing every pixel with its neighbor. It replaces any pixel with extreme values that deviate in color by a large amount from the mean value with a pixel that has a mean color value. The amount of picture information does not increase each time the filter is applied. However, there are fewer contrast changes resulting in an image that looks smoother and the effect is very subtle (Figure 146).

Figure 146: Example image remove noise filter applied

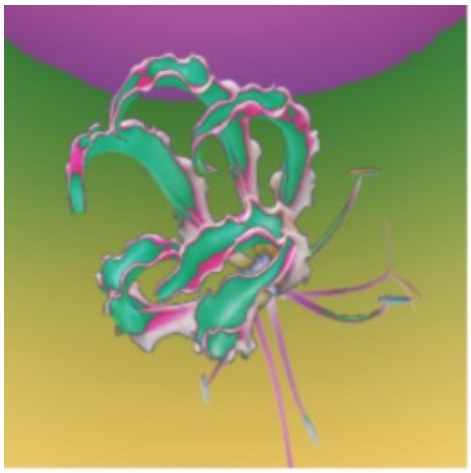

Figure 147: Example image solarization filter applied

Solarization filter

Solarization refers to an effect that looks when there is too much light during photo development and the colors have become partly inverted. Dark areas appear light or light areas appear dark. In the digital world of photography, solarization creates a change or reversal of color, similar to the effect of the **Invert** image filter. Figure 147 shows the effect of a **Solarization** filter applied using a *Threshold value* of 50%.

Selecting **Solarization** opens the Solarization dialog (Figure 148), where the degree of solarization (*Threshold value*) can be specified. Entering a *Threshold value* above 70% reverses the inversion effect on colors. Also, selecting *Invert* reverses the effect of the Solarization image filter, as shown in the preview box in Figure 148.

Aging filter

The **Aging** filter creates a look that resembles photographs developed in the early days of photography (Figure 149). All pixels are set to their gray values. The green and blue color channels are then reduced by the amount specified in *Aging degree* in the Aging dialog. Red color channel is not changed. Selecting the **Aging** filter opens the Aging dialog (Figure 150), where the *Aging degree* can be defined and create an old look for an image.

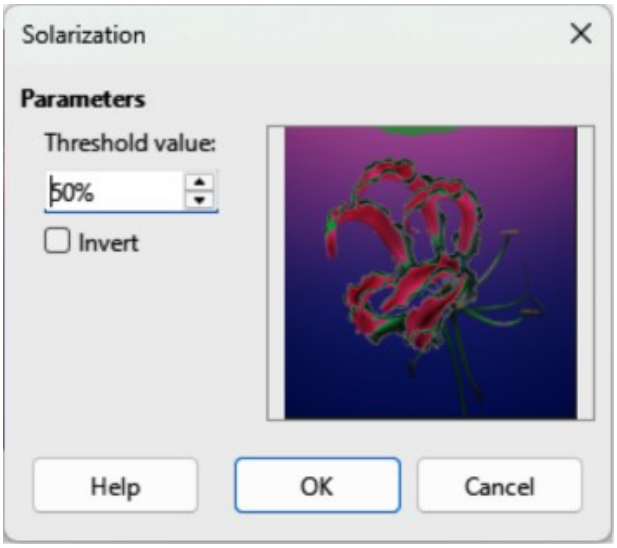

Figure 148: Solarization dialog

Figure 149: Example image aging filter applied

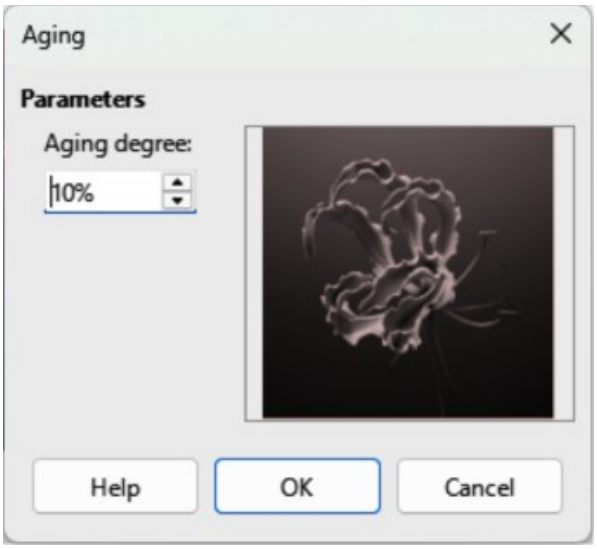

Figure 150: Aging dialog

Figure 151: Example image posterize filter applied

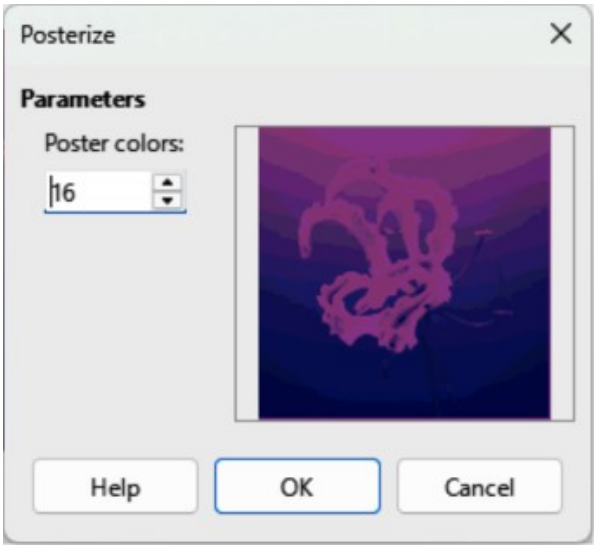

Figure 152: Posterize dialog

Posterize filter

Posterizing reduces the number of colors in an image. For example, a photograph will probably look like a painting when the number of colors is reduced (Figure 151). Selecting **Posterize** opens the Posterize dialog (Figure 152) where the number of *Poster colors* can be defined to produce the effect required.

Pop Art filter

Changes the colors of an image by converting the image to a pop-art format (Figure 153).

Charcoal Sketch filter

Displays an image as a charcoal sketch. The contours of the image are drawn in black and the original colors are suppressed (Figure 154).

Relief filter

Calculates the edges of an image in relief as if the image is illuminated by a light source (Figure 155). Selecting **Relief** opens the Emboss dialog (Figure 156) where the position of the *Light source* is selected producing shadows that differ in direction and magnitude.

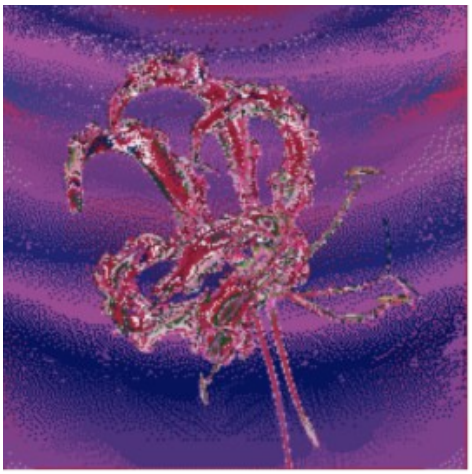

Figure 153: Example image pop art filter applied

Figure 154: Example image charcoal sketch filter applied

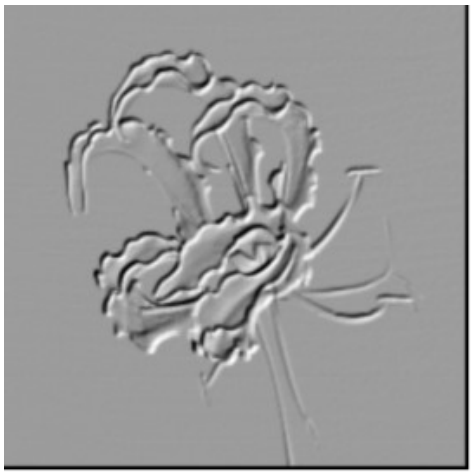

Figure 155: Example image relief filter applied

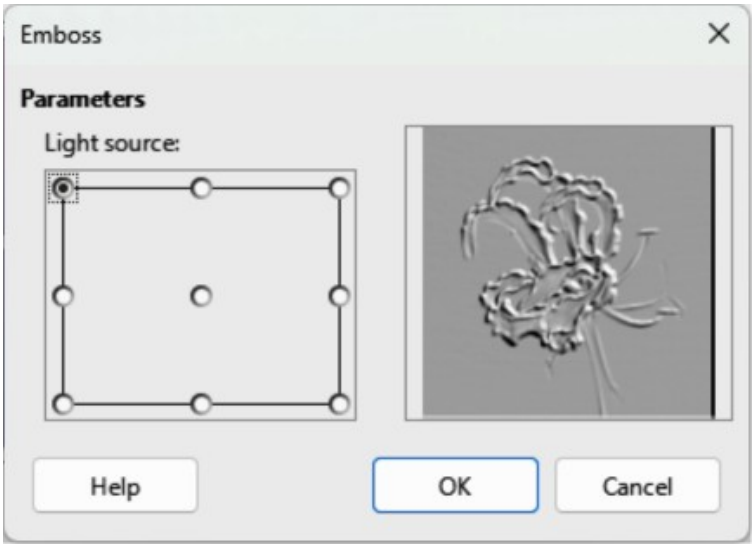

Figure 156: Emboss dialog

Figure 157: Example image mosaic filter applied

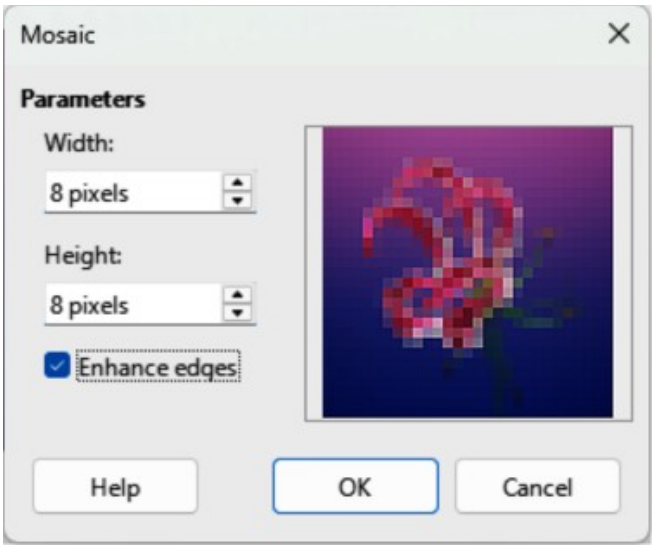

Figure 158: Mosaic dialog

Mosaic filter

The **Mosaic** filter joins groups of pixels and converts the pixels into rectangles of a single color creating an image that appears to be a mosaic (Figure 157). The larger the individual rectangles created, the fewer details in the mosaic graphic.

Selecting this image filter opens the Mosaic dialog (Figure 158), where the number of pixels for *Width* and *Height* of the tiles is set. Selecting *Enhanced edges* enhances the edges of each tile, creating a sharper definition.

Replacing colors

The **Color Replacer** is used to replace or change a color of an embedded image for another color, or to make a color transparent. Up to four colors can be replaced or changed at the same time. Areas of an image cannot be selected for editing as the **Color Replacer** only works on the whole of an image.

Selecting replacement colors can only be from the available color palettes in LibreOffice. Custom colors cannot be defined in the **Color Replacer**, but custom colors can be created before using the **Color Replacer**. For more information on creating custom colors, see Chapter 11, Advanced Draw Techniques.

Note

The **Color Replacer** can only be used on embedded images. If the **Color Replacer** is used on a linked image, the following error message appears *"This image is linked to a document. Do you want to unlink the image in order to edit it?"*. Click on **Yes** to unlink and embed the graphic.

Color Replacer dialog

Pipette

Switches color selection on when selected.

Replace

Replaces selected source colors in a selected image with the colors specified in the *Replace with* boxes.

Colors

Lists the source colors and the replacement colors.

Source color

Select this checkbox to replace the current *Source color* with the color that specified in the *Replace with* box.

Tolerance

Set the tolerance for replacing a source color in a source image. To replace colors that are similar to the color selected, enter a low value. To replace a wider range of colors, enter a higher value.

Replace with

Lists the available color palettes and replacement colors.

Transparency

Replaces transparent areas in the selected image with the color selected.

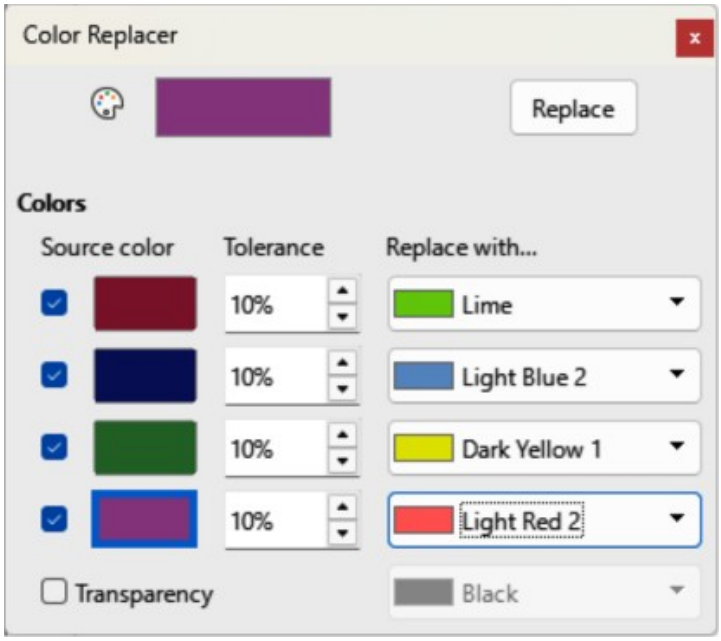

Figure 159: Color Replacer dialog

Figure 160: Example image before replacing colors

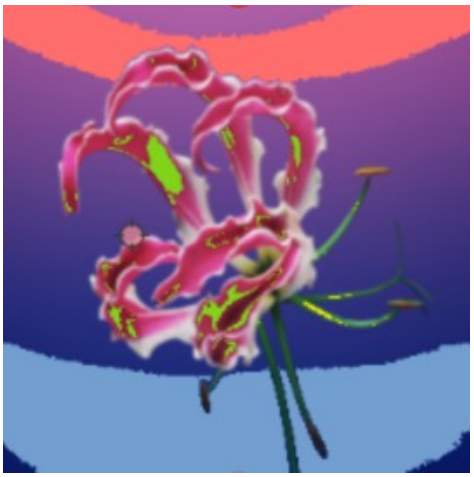

Figure 161: Example image after replacing colors

Replacing colors

Note

Using the **Color Replacer** replaces all occurrences of a *Source color* that are in the selected image. Default selection of *Transparent* in the *Replace with* boxes removes selected color from an image creating transparent areas in a selected image.

1) Select an embedded image.
2) Go to **Tools > Color Replacer** on the Menu bar to open the Color Replacer dialog (Figure 159).
3) Click on **Pipette** at the top of the Color Replacer dialog to activate the color selection mode.
4) Move the cursor over the color to be replaced in the selected image.
5) Click on the color and following happens. A maximum of four colors can be selected in an image.
   - A preview of a selected color appears in the box next to **Pipette** each time a color is clicked on.
   - Each selected color appears in a *Source color* preview box with a check mark.
6) Enter the amount of tolerance required for replacing each selected color in the *Tolerance* boxes. The default selection is 10% tolerance.
7) In *Replace with* and for each selected color, select a color palette from the drop-down list, then select the required color from the color palette. **Transparent** is the default selection.
8) After selecting up to four colors for replacement, click **Replace** to replace the colors in the selected image. Examples of the original image and after color replacement are shown in Figures 160 and 161.
9) There is no preview of the effect. If the result is not satisfactory, select **Edit > Undo: Image with transparency Color Replacer** in the Menu bar and repeat the color replacement.

Replacing transparent areas

1) Go to **Tools > Color Replacer** on the Menu bar to open the Color Replacer dialog.

2) Select an image with transparent areas.

3) Select **Transparency** in the Color Replacer dialog so that a check mark appears next to **Transparency**.

4) Select a color palette from the drop-down list next to **Transparency**, then select a color from the selected palette.

5) Click on **Replace** and the transparent areas are filled with the selected color.

6) There is no preview of the effect. If the result is not satisfactory, select **Edit > Undo: Image with transparency Color Replacer** in the Menu bar and repeat the transparency replacement.

Conversion

Contour conversion

Consider the following points before carrying out a contour conversion on an object:

- Contour conversion converts a selected object to a polygon, or a group of polygons, with four corner points.
- Converting an image to a contour, the converted image is set as a background graphic.
- If the conversion creates a group of polygons (for example, contour conversion of a text object). Enter a polygon group before selecting an individual polygon within a group. For more information on working with groups, see Chapter 5, Combining Multiple Objects.
- After converting an image to a contour, the object can no longer be edited normally. The converted image has to be edited using **Edit > Points** on the Menu bar to adjust its shape. For more information on editing points, see Chapter 3, Working with Objects.
- Any object editing must be completed before carrying out a contour conversion because any further editing is not possible on the converted object.
- No confirmation dialog is provided for a contour conversion.

A contour conversion is carried out as follows:

1) Carry out all necessary editing on the object before converting to a contour.

2) Make sure the object is selected.

3) Convert the object to a contour using one of the following methods:

   – Go to **Shape > Convert > To Contour** on the Menu bar.

   – Right-click on a selected object and select **Convert > To Contour** from context menu.

Polygon conversion

Polygon conversion is used to convert a selected image into a group of polygons filled with color. The image is also converted to a vector graphic and can be resized with no loss of image quality or distortion of any text. After conversion, the graphic can be broken into groups of polygons and then split into individual polygons. Breaking and splitting allows editing or deletion of individual colors within the graphic.

Conversion options and controls

Number of colors

Enter the number of colors to be displayed in the converted image. LibreOffice generates a polygon for each occurrence of a color in the image. The range for the number of colors is between 8 and 32.

Point reduction

Removes color polygons that are smaller than the pixel value entered. The range for point reduction is between 0 and 32 pixels.

Fill holes

Fills the blank areas in the graphic that can be created when applying a point reduction.

Tile size

Enter the size of the rectangle for the background fill. Tile sizes range between 8 and 128 pixels.

Source image

Preview of the original image.

Vectorized image

Preview of the converted image.

Preview

Creates a preview of the converted image in Vectorized image without applying any changes.

OK

Converts the image to a vector graphic consisting of polygons. The result is a metafile in SVM format (Star View Metafile) used by LibreOffice and allows transfer of the converted image to other LibreOffice documents.

Converting

1) Select an image in a drawing.
2) Convert the image into a polygon using one of the following methods and open the Convert to Polygon dialog (Figure 162).
   - Go to **Shape > Convert > To Polygon** on the Menu bar.
   - Right-click on the image and select **Convert > To Polygon** from the context menu.
3) Select **Number of colors** and **Point reduction** to be used in the conversion.
4) Select **Fill holes** to prevent any blank areas appearing in the converted image.
5) Enter the number of pixels to use for **Tile size**.
6) Click **Preview** to check how the converted graphic will look.
7) Make any necessary changes to the settings and check the preview again.
8) If the converted image meets the expected requirements, click **OK** to convert the image to a polygon and close the Convert to Polygon dialog.

Breaking

After converting an image to polygons, the vectorized image can be broken into groups of polygons. Each polygon group consists of one color and becomes an object that can be used in another drawing.

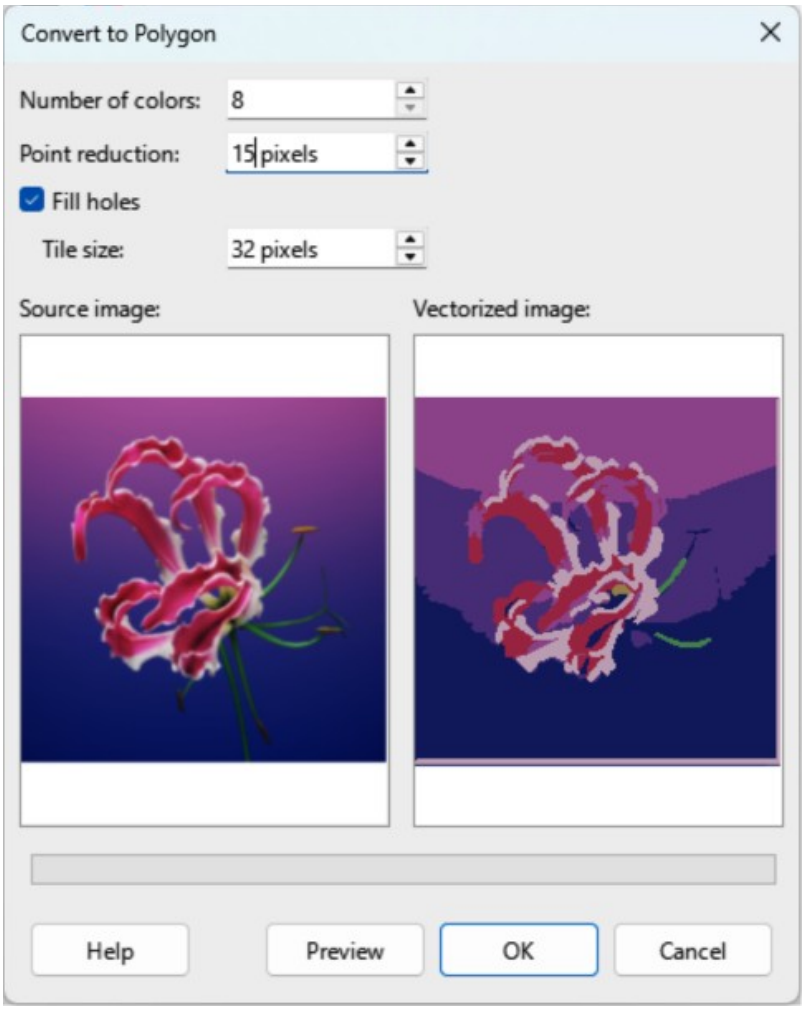

Figure 162: Convert to Polygon dialog

1) Convert an image to polygons.
2) Make sure the converted image is selected, then use one of the following methods to break the image into groups of polygons:
   – Go to **Shape > Break** on the Menu bar.
   – Right-click on the image and select **Break** from the context menu.
3) Click on a color in the image and drag the group of polygons filled with that color out of the image to create a new image.
4) Alternatively, press **Delete** and delete the color from the image.

Splitting

After converting an image to polygons and breaking the image into polygon groups, these polygon groups can be split into individual polygons.

1) Convert an image to polygons.
2) Break the image into groups of polygons.
3) Select the image, then use one of the following methods to split the polygon groups into individual polygons:
   – Go to **Shape > Split** on the Menu bar.
   – Right-click on the image and select **Shapes > Split** from the context menu.

– Use the keyboard shortcut *Ctrl+Alt+Shift+K* (macOS ⌘+⌥+*Shift+K*)

4) Select an individual polygon (or several polygons) in the image and drag the polygon from the image to create a new image in the drawing.

5) Alternatively, press **Delete** to delete the selected polygon(s) from the image.

Bitmap conversion

All drawing objects placed into a LibreOffice drawing are vector graphics and these vector graphics can be converted to a bitmap (raster graphic) in PNG format. Any transparent areas in the original vector graphic are lost during conversion even though the PNG format used by Draw supports transparencies. Use one of the following methods to convert a vector graphic to a bitmap. No confirmation dialog is provided for a bitmap conversion.

- Go to **Shape > Convert > To Bitmap** on the Menu bar.
- Right-click on the graphic and select **Convert > To Bitmap** from the context menu.

Draw Guide 24.8

Chapter 7, 3D Objects

Introduction

Draw does not have the functionality of other drawing or image editing programs, but can produce and edit 3D drawings. Using Draw, 3D scenes and extruded 3D shapes are created and edited. Depending 3D type selected, there are possibilities for further editing of an object (rotation, illumination, perspective, and so on).

- Extruded 3D shapes are simpler to create and edit.
- 3D scenes allow for greater customization.

3D object types

3D scenes

3D scenes are created from objects that use dimensions for the x, y, and z coordinates and can contain object types, such as cube, sphere, extrusion object or rotation object. These object types do not exist outside a 3D scene.

The **Status Bar** displays *3D scene selected* (Figure 163) when it is selected and has been created from a 2D object using body rotation or conversion. Alternatively, it is a ready-made 3D object that has been inserted into a drawing.

A 3D scene is similar to a group. Just like a group, a 3D scene is entered for editing individual objects within a 3D scene and exited after editing is completed. See Chapter 5, Combining Multiple Objects for more information on entering, editing and exiting groups.

When a 3D scene is created from a selection of several 2D objects, a group is automatically created as a single 3D scene. Enter this 3D scene so that individual objects within the 3D scene can be changed, edited and rotated.

Note

Individual objects cannot be ungrouped when a 3D scene has been created from a selection of 2D objects.

3D shapes

2D shapes are flat with only width and height dimensions, but 3D shapes are solid objects that have a depth, width, and height. A 3D shape is created when a 2D shape or an object from the Fontwork Gallery is converted to 3D using **Toggle Extrusion**. The **Status Bar** displays *Shape selected* when this type of 3D object is selected (Figure 164).

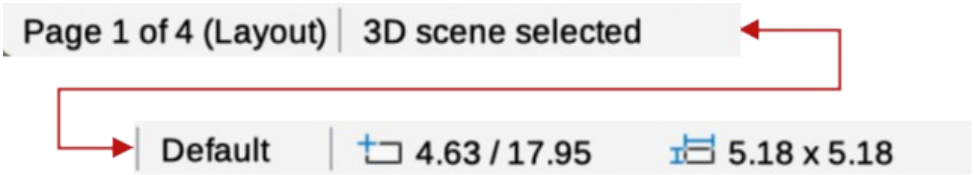

Figure 163: Status Bar — information with 3D scene selected

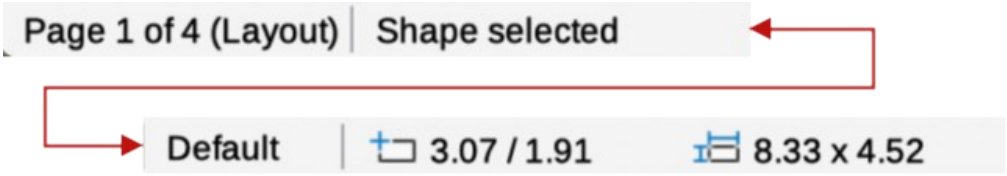

Figure 164: Status Bar — information with 3D shape selected

3D shapes are viewed and edited in 3D or 2D mode. To edit in 2D mode, switch off extrusion, make the editing changes, then switch back to 3D mode using **Toggle Extrusion**.

Note

Toggle Extrusion is only used when a 2D shape, or a 3D object that has been extruded from a 2D shape, or an object from the Fontwork Gallery is selected in a drawing. **Toggle Extrusion** cannot be used for text, lines, arrows, curves, and polygons.

Creating 3D objects

Notes

Before creating 3D objects in a drawing, it is recommended that the extra 3D tools (**To 3D**; **To 3D Rotation Object**; **Toggle Extrusion**) are added to the Drawing toolbar using **Visible Buttons** or the Customize dialog. For more information on using **Visible Buttons** and the Customize dialog, see Appendix B, Toolbars and the *Getting Started Guide*.

After installing the 3D tools onto the Drawing toolbar, the tools only become available for use when a 2D object is selected in a drawing.

Ready made 3D objects can be repositioned, resized, and edited in the same way as 2D objects. See Chapter 3, Working with Objects for more information.

3D ready made objects

3D ready made objects are 3D scenes inserted into a drawing using one of the following methods. The selection and drawing of 3D objects is the same for all methods of inserting a 3D ready made object.

- Click on the triangle ▼ to the right of **3D Objects** on the Drawing toolbar (Figure 165) and select a 3D object from the sub-toolbar that opens.
- Go to **View > Toolbars > 3D-Objects** on the Menu bar to open the 3D-Objects toolbar (Figure 166). This toolbar has the same options available as the 3D Objects sub-toolbar on the Drawing toolbar.
- Go to **Shapes > Insert > 3D Objects** on the Menu bar and select a 3D object from the submenu.
- Go to the **3D Objects** panel in the Shapes deck on the Sidebar (Figure 167) and select a 3D object.

Figure 165: Drawing toolbar

Figure 166: 3D-Objects toolbar

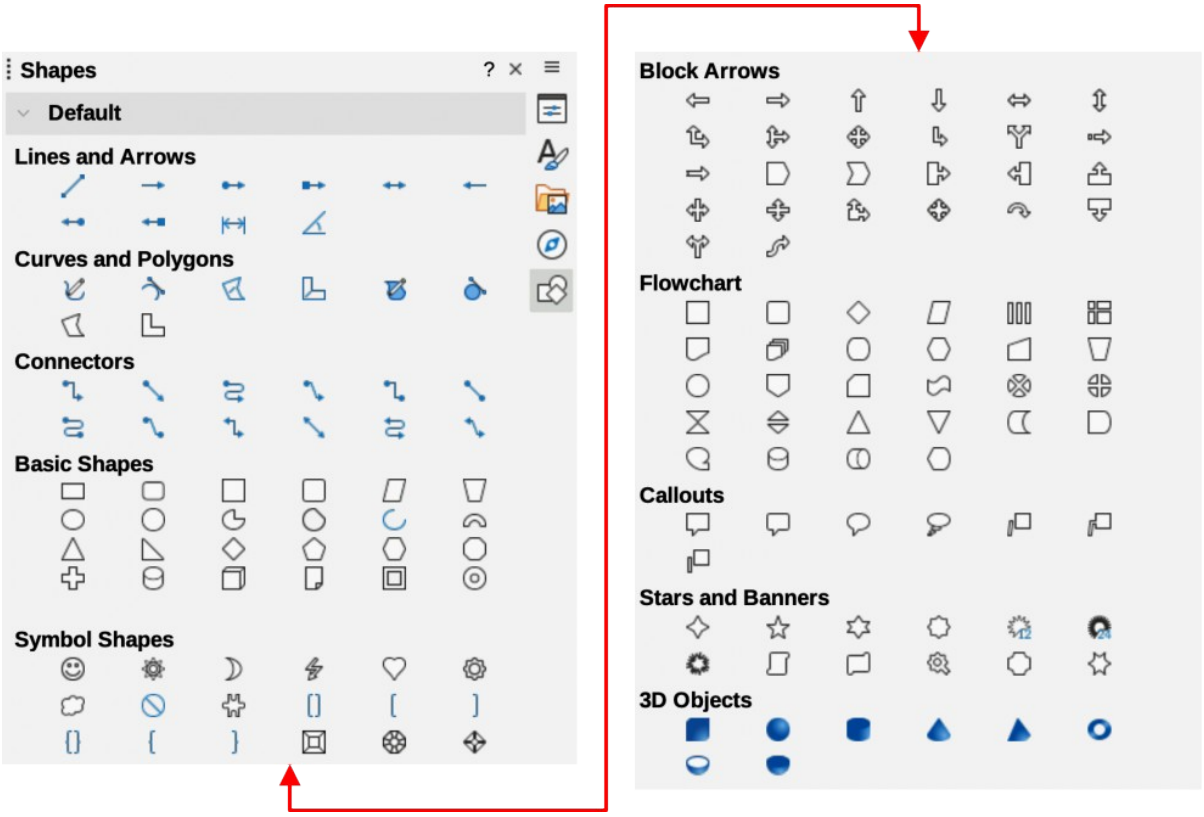

Figure 167: Shapes deck on Sidebar

Converting 2D objects

Conversion tools for converting a 2D object into a 3D object are available as follows:

- On the Drawing toolbar.
- On the Transformations toolbar.
- Right-clicking on the object and selecting from the context menu.
- Goint to **Shape** on the main Menu bar and selecting **Transformations** or **Convert** from the context menu.
- Using the 3D Effects dialog.

To convert a 2D object into a 3D object use one of the following tools.

To 3D

Creates a 3D scene containing an extrusion object (Figure 168).

To 3D Rotation Object

Creates a 3D scene using a default rotation axis. The position of the default axis cannot be adjusted (Figure 169).

Figure 168: Example of using To 3D conversion

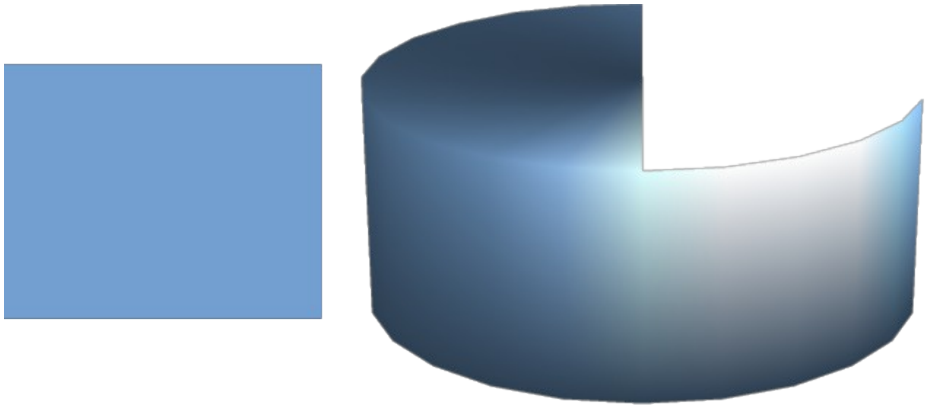

Figure 169: Example of using To 3D Rotation Object conversion

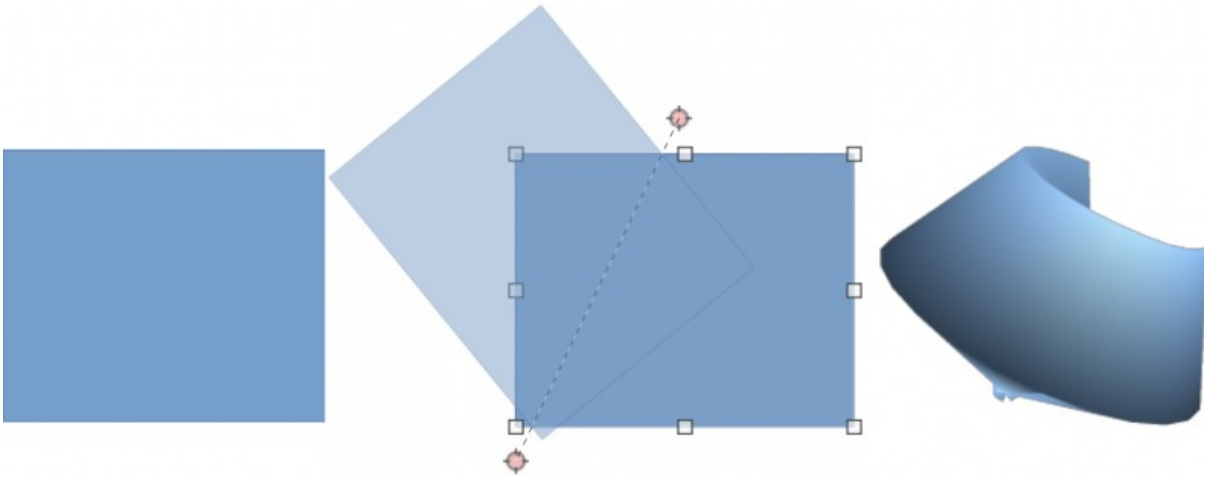

Figure 170: Example of using In 3D Rotation Object conversion

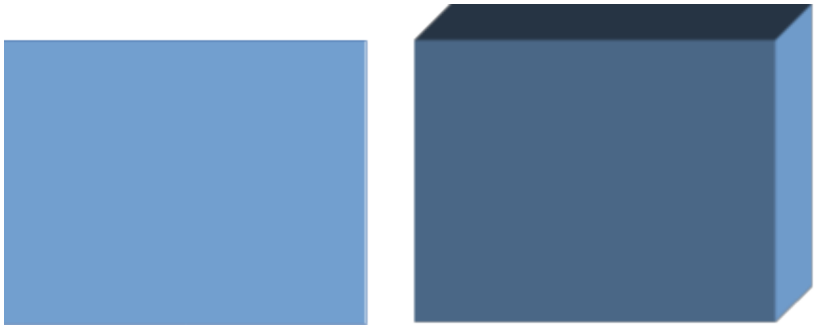

Figure 171: Example of using Toggle Extrusion

In 3D Rotation Object

Creates a 3D scene using a rotation axis. The position of the rotation axis can be adjusted to create different 3D objects (Figure 170).

Toggle Extrusion

Creates a 3D shape by extruding a 2D object into 3D. Only 3D shapes that have been extruded can be converted back to a 2D object (Figure 171).

Convert To Rotation Object

Available in the 3D Effects dialog. Converts a selected 2D object into a 3D rotation object. Also, selecting several ungrouped 2D objects can be converted into a single 3D rotation object. For more information, see “3D effects” on page 176.

Extrusion

Extrusion converts a 2D object into a 3D scene by extruding a 2D object toward the observer. The scene is rotated by 20 degrees around the horizontal axis to make the 3D effect more visible. After selecting a 2D object, convert it to a 3D scene using one of the following methods:

- Right-click on the 2D object and select **Convert > To 3D** from the context menu.
- Click on **To 3D** in the Drawing toolbar.
- Go to **Shape > Convert > To 3D** on the Menu bar.
- Click on **Convert to 3D** in the 3D Effects dialog. For more information, see “3D effects” on page 176.

Rotation

To 3D Rotation Object or **Convert to Rotation Object** converts a 2D object into a 3D scene by rotating the object using the left edge of the bounding box around the object as the axis of rotation. Examples of 3D conversion using either of these rotation tools are shown in Figure 169. The actual 3D scene created depends on the angle and shape of the object being rotated. After selecting a 2D object in a drawing, convert it to a 3D scene using rotation using one of the following methods:

- Right-click on a 2D object and select **Convert > To 3D Rotation Object** from the context menu.
- Click on **To 3D Rotation Object** in the Drawing toolbar. By default, **To 3D Rotation Object** is not installed on the Drawing toolbar, but is available for installation in **Visible Buttons** for the Drawing toolbar.
- Go to **Shape > Convert > To 3D Rotation Object** on the Menu bar.
- Click on **Convert To Rotation Object** in the 3D Effects dialog. For more information, see “3D effects” on page 176.
- Go to **Shape > Convert > In 3D Rotation Object** on the Menu bar.

Toggle extrusion

Extrusion is where parallel surfaces are moved to create a 3D shape. In Draw, the 2D surface is moved forwards out of the drawing level. At the same time the object is slightly tilted and central projection turned on, creating the impression of a 3D shape. Draw uses a default value for this extrusion (body depth) based on the size of the 2D object. The value can be changed after the extrusion, see “Editing 3D objects” on page 175.

Extrusion conversion is carried out using **Toggle Extrusion**. Extrusion only works on **Basic Shapes**, **Symbol Shapes**, **Block Arrows**, **Flowcharts**, **Callouts**, **Stars and Banners**, and **Fontwork**. These are included as a part of the default set of tools on the Drawing toolbar, or in the Shapes deck on the Sidebar.

1) Select a 2D object in a drawing created from **Basic Shapes**, **Symbol Shapes**, **Block Arrows**, **Flowcharts**, **Callouts**, **Stars and Banners**, or **Fontwork**.
2) Click on **Toggle Extrusion** on the Drawing toolbar to convert the 2D object into a 3D shape.
3) To convert a 3D conversion back into a 2D object, select the 3D object and click on **Toggle Extrusion** on the Drawing toolbar.

Note

Extrusion cannot be used on text objects created using **Insert Text Box** or **Insert Vertical Text**.

Editing 3D objects

Note

Where 3D scenes are created from more than one 2D object, a 3D scene group is automatically created. This 3D scene group cannot be ungrouped and any editing carried out affects all 3D objects within the group. To edit an individual 3D object within this 3D scene group, enter the group. For more information on working with groups, see Chapter 5, Combining Multiple Objects.

Position, Size and Rotation

Editing the position, size and rotation of 3D objects is similar to 2D objects. See Chapter 3, Working with Objects for more information.

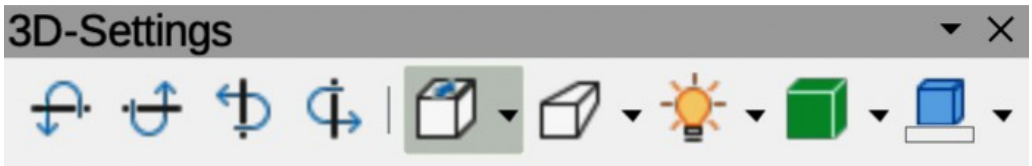

Figure 172: 3D-Settings toolbar

Figure 173: Example of changing 3D settings

3D settings

Go to **View > Toolbars > 3D-Settings** on the Menu bar to open the 3D-Settings toolbar (Figure 172). The 3D-Settings toolbar activates when a 3D shape is selected created from a 2D object using “Toggle extrusion” on page 174.

Any changes made using the editing tools on the 3D-Settings toolbar are applied to the selected 3D shape immediately displaying the 3D effect. Figure 173 shows an example of tilting left, increasing extrusion depth, and changing 3D color using the 3D-Settings toolbar.

The tools available for editing 3D shapes are as follows.

Tilt Down

Tilts an object downward (horizontal axis rotation) by 5 degrees each time the tool is used.

Tilt Up

Tilts an object upward (horizontal axis rotation) by 5 degrees each time the tool is used.

Tilt Left

Tilts an object left (vertical axis rotation) by 5 degrees each time the tool is used.

Tilt Right

Tilts the selected object right (vertical axis rotation) by 5 degrees each time the tool is used.

Depth

Opens a pop-up menu where the extrusion depth can be set from an object by a fixed or custom amount.

Direction

Opens a pop-up menu where the view direction can be set to create an extrusion in either a perspective or parallel projection.

Lighting

Opens a pop-up menu where the direction and intensity of the lighting can be set when creating an extrusion.

Surface

Opens a pop-up menu where the surfaces of the object can be set as *Wire Frame*, *Matt*, *Plastic*, or *Metal* display.

3D Color

Opens a pop-up menu where the color used for the extrusion can be set. This color does not have to be the same as the color used for the original 2D object.

3D effects

The 3D Effects dialog provides options for editing 3D ready made objects, or 3D scenes. This dialog is also used to convert a 2D object to 3D using the tools in the bottom left corner of the dialog. Open the 3D Effects dialog using one of the following methods:

- Click on **3D Effects** on the Standard or Line and Filling toolbar, if this has been added to the tollobar.
- Go to **Format > 3D-Effects** on the Menu bar.

Any 3D effects applied to a 3D scene are not carried out until **Assign** is selected in the top right of the 3D Effects dialog. This allows for all 3D effect changes to be carried out before application to a 3D scene.

Notes

The 3D Effects dialog cannot be used on 3D shapes created using **Toggle Extrusion** because the correct formatting results will not be achieved. If the 3D Effects dialog is used in error, remove any incorrect formatting by going to **Format > Default Formatting** on the Menu bar.

Any options grayed out in the pages in the 3D Effects dialog cannot be used for a selected object.

3D conversion

In the bottom left corner of the 3D Effects dialog (Figure 174) are tools for converting a 2D object into a 3D scene and changing the projection used in a 3D scene.

Convert to 3D

Converts the selected object into a 3D scene. This tool works in the same way as using “Extrusion” on page 174.

Convert to Rotation Object

Converts a 2D object into a 3D scene using body rotation. This tool works in the same way as using “Rotation” on page 174.

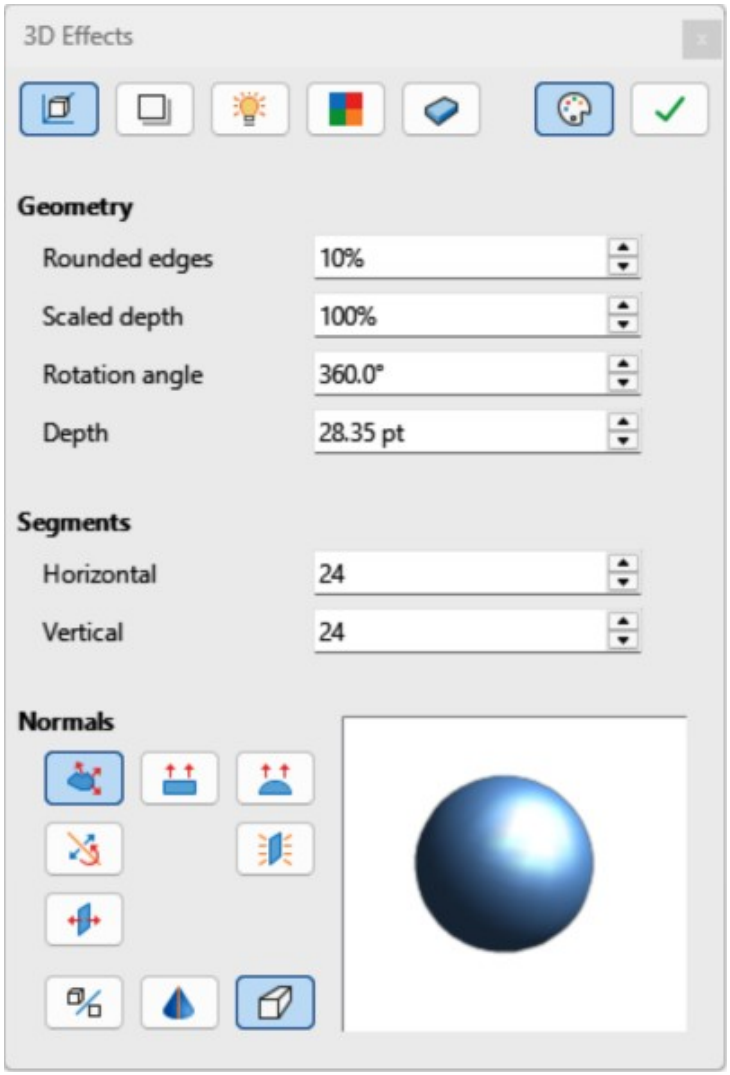

Figure 174: 3D Effects dialog — Geometry page

Perspective On/Off

Switches perspective projection on or off for a 3D scene. Perspective projection is a technique to create a linear illusion of depth. As objects get further away from the viewer, a perspective drawing decreases in size at a constant rate.

Note

The 3D Effects dialog has five pages to provide options for **Geometry**, **Shading**, **Illumination**, **Textures**, and **Material**. The tools to change pages for the different types of 3D effects are located at the top of the 3D Effects dialog.

3D Effects — Geometry

Clicking on **Geometry** in the 3D Effects dialog (Figure 174) opens the options available on the **Geometry** page to change the geometry of a 3D object.

Geometry

Defines the properties of an object in a 3D scene.

Rounded edges

Enter the amount required to round the corners of a 3D shape as shown by the example in Figure 175. The default setting for *Rounded edges* is 10%.

Scaled depth

Enter the amount required to increase or decrease the frontal area of a selected 3D object. Figure 176 shows an example where the *Scaled depth* has been decreased to 50%, then increased to 150%. The default setting for *Scaled depth* is 100%.

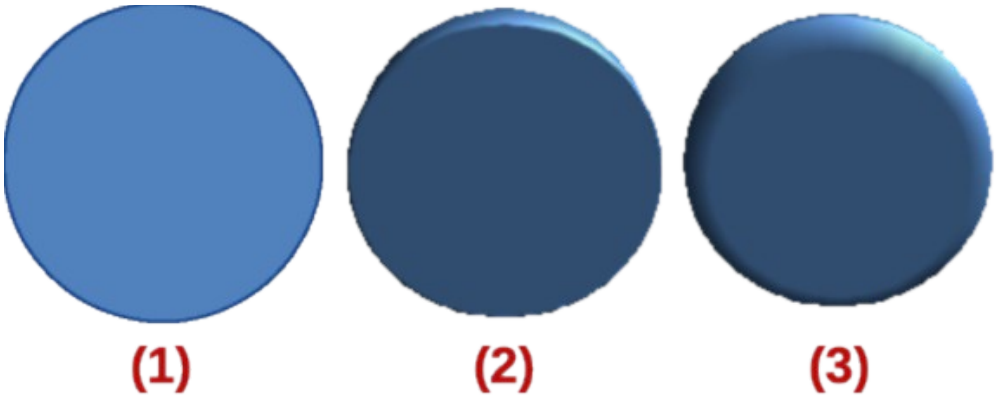

Figure 175: Example of rounded edges

(1) Original object (2) 10% rounded edges (3) 75% rounded edges

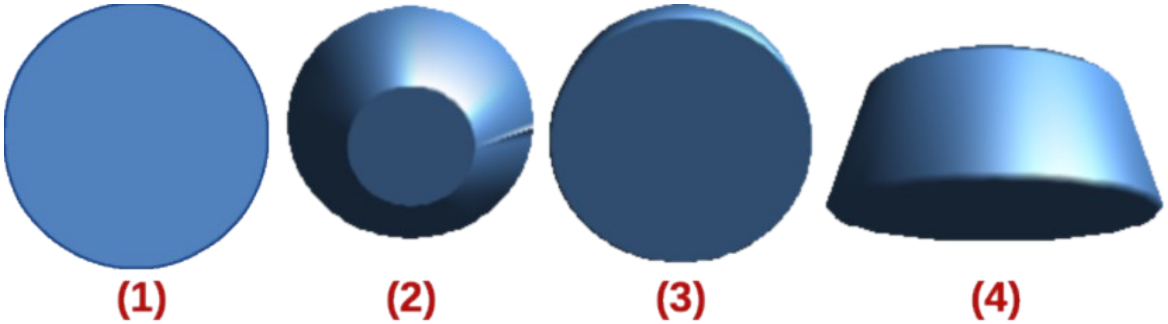

Figure 176: Example of scaled depth

(1) Original object
(2) 50% scaled depth
(3) 100% scaled depth
(4) 150% scaled depth

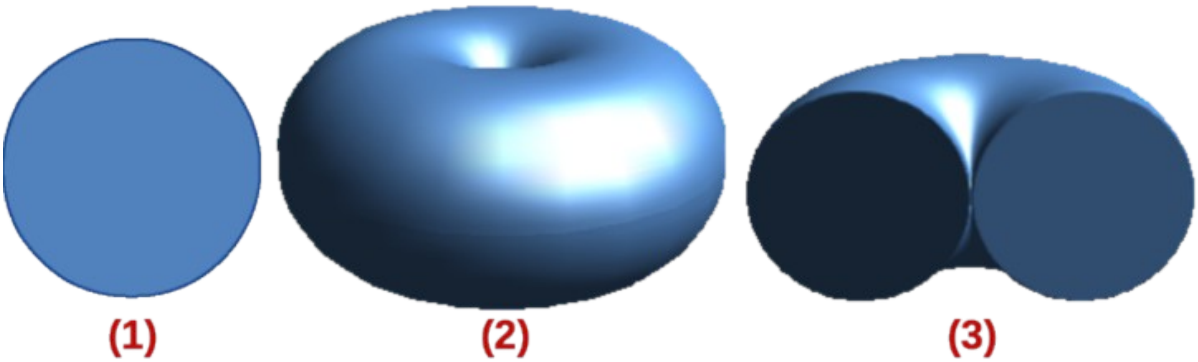

Figure 177: Example of rotation angle

(1) Original object
(2) Converted using To 3D Rotation Object
(3) Rotation angle changed to 180 deg

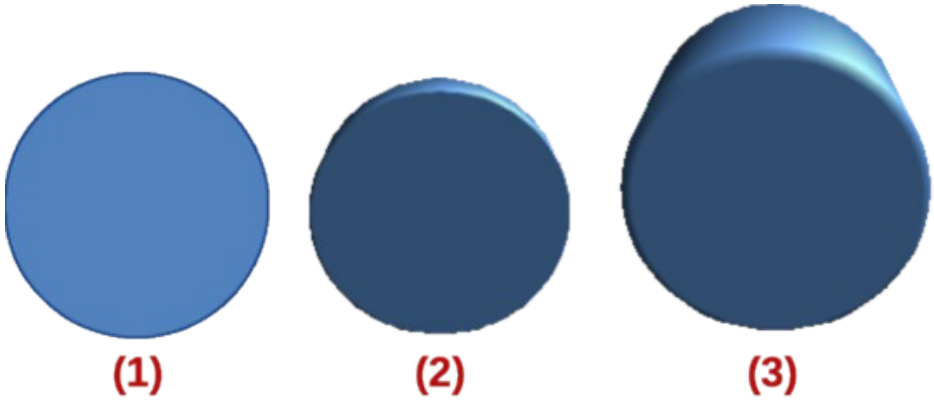

Figure 178: Example of increasing depth

(1) Original object
(2) Converted using To 3D
(3) Depth increased to 3cm

Rotation angle

Enter the angle in degrees to rotate a 2D object that has been converted to 3D using **To 3D Rotation Object**. Figure 177 shows an example of a 2D circle where the *Rotation angle* is changed to 180 degrees.

Depth

Enter the extrusion depth for the selected 2D object after it has been converted to 3D. Figure 178 shows an example of the original object converted to 3D using the tool **To 3D**, then increasing *Depth* to 3cm.

Segments

Changes the number of segments that LibreOffice Draw uses to draw a 3D object. The higher the number of segments, the smoother the object surface is. However, a high segment number may increase the time it takes to generate the 3D object on a display. Figure 179 shows the difference on a 3D sphere when the segments have been increased from 12 to 24 segments horizontally and vertically.

Horizontal

Enter the number of horizontal segments used in the selected 3D object.

Vertical

Enter the number of vertical segments used in the selected 3D object.

Normals

Modifies the rendering style of the 3D surface.

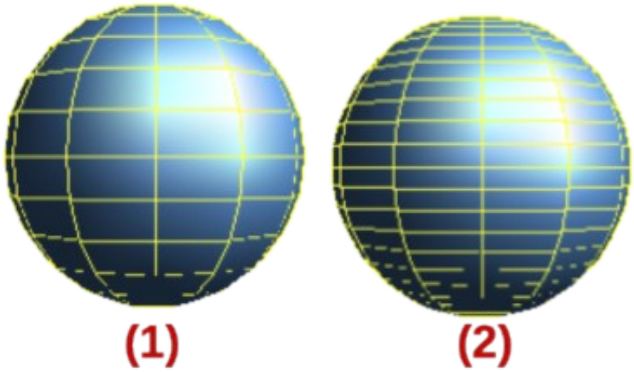

Figure 179: Example of using segments

(1) 12 segments (2) 24 segments

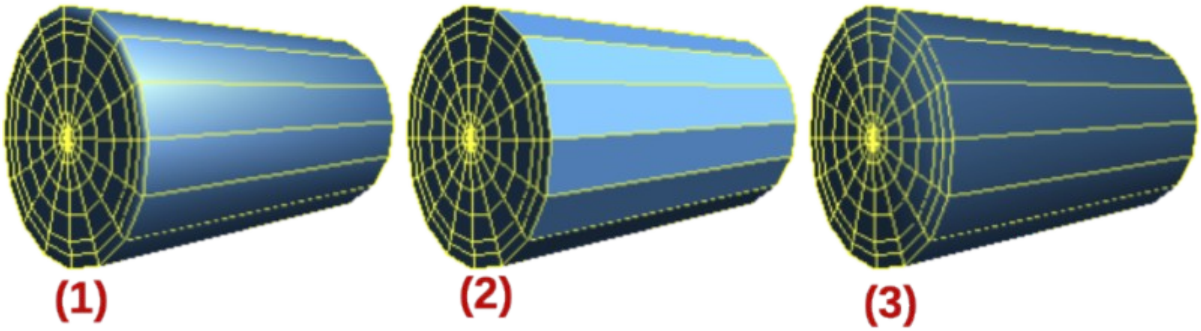

Figure 180: Examples of object specific, flat, and spherical effects

(1) Object Specific (2) Flat (3) Spherical

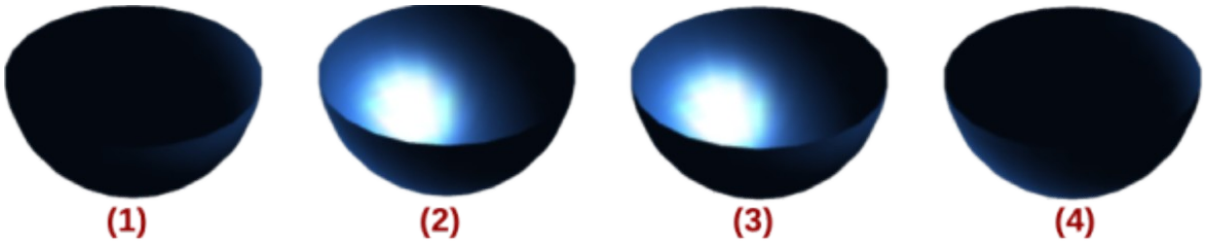

Figure 181: Examples of invert normals and double sided illumination

(1) Invert Normals off, Double Sided Illumination off
(2) Invert Normals on, Double Sided Illumination off
(3) Invert Normals off, Double Sided Illumination on
(4) Invert Normals on, Double Sided Illumination on

Object-Specific

Renders the 3D surface according to the shape of the object (Figure 180).

Flat

Renders the 3D surface as polygons (Figure 180).

Spherical

Renders a smooth 3D surface regardless of the shape of the object (Figure 180).

Invert Normals

Inverted normal is a normal that is pointing in the wrong direction (Figure 181). This tells a computer that an outside face is actually an inside face when it is not. If there is a hollow design, an inverted normal can be indicated because both surfaces facing are in and out in the same model.

Double-Sided Illumination

Lights the outside and the inside of the object (Figure 181). This has only an effect, if the inside is drawn at all, see *Double-Sided*. This is a setting for the whole of the 3D scene and not for a single object within the scene.

Double-Sided

3D object has outside (front) and inside (back) faces (Figure 181). With *Double-Sided* switched off, only the outside face of the object is rendered. The effect, when looking from outside, is that the object is solid, but, when looking from inside, the front face is transparent. If there is no view to the inside face, normal for an extruded 3D object with solid texture, *Double-Sided* should be switched off to improve performance during rendering. Any 3D object created using rotation often allows an inside view and it is recommended that *Double-Sided* is switched on.

3D Effects — Shading

The **Shading** page of the 3D Effects dialog (Figure 182) provides options to set the shading, shadow, and camera effects on a selected 3D object.

Shading

Specifies the mode of shading applied to a 3D object (Figure 183).

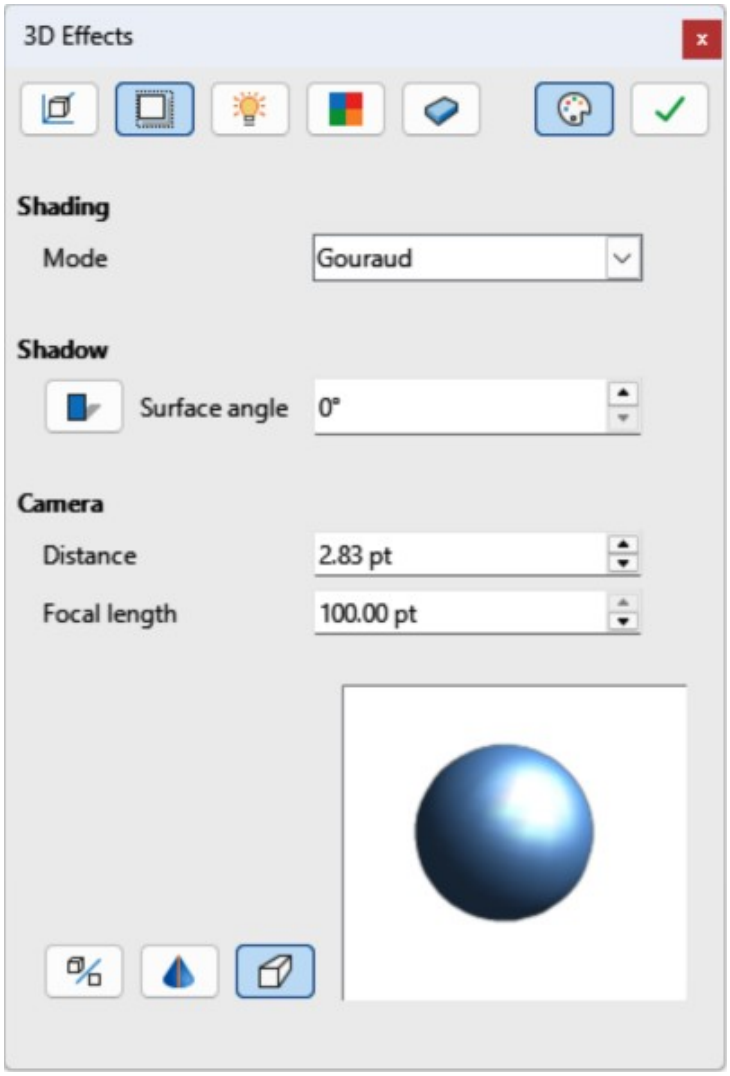

Figure 182: 3D Effects dialog — Shading page

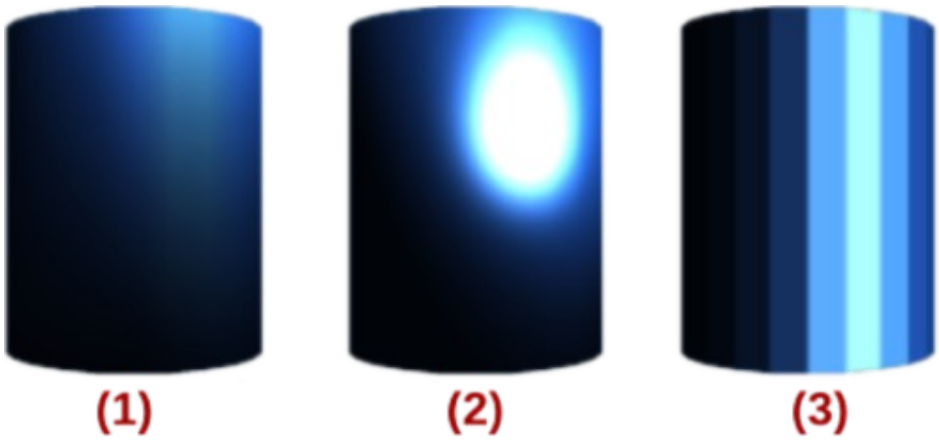

Figure 183: Examples of shading mode

(1) Gouraud (2) Phong (3) Flat

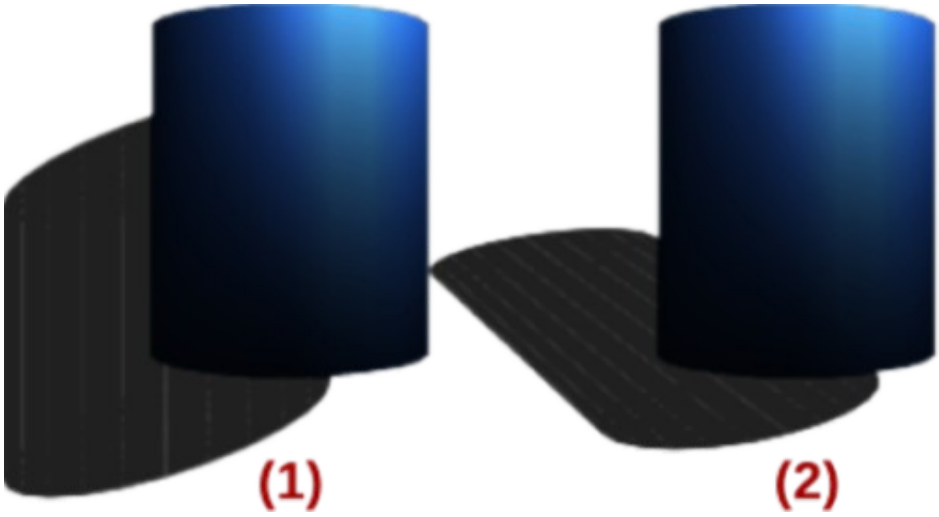

Figure 184: Examples of shadow surface angle

(1) 0 deg shadow (2) 50 deg shadow

Gouraud

Gouraud shading mode is a method used to simulate the differing effects of light and color across the surface of an object. It achieves smooth lighting on low-polygon surfaces without the heavy computational requirements of calculating lighting for each pixel.

Phong

Phong shading mode is an interpolation technique for surface shading calculating the normal of a point in a polygon by interpolating the vertices normals. The angle between normal and lighting direction determines how much of the lighting is used to color the pixel.

Flat

Flat shading mode refers to depth perception in 3D models or illustrations by varying the darkness level. It assigns a single color of shading to a single segment on the surface of the object.

Shadow

Adds or removes a shadow from a selected 3D object (Figure 184). A shadow is generated only from the first light source. Enter a *Surface Angle* from the light source to the surface between 0 to 90 degrees to cast a shadow.

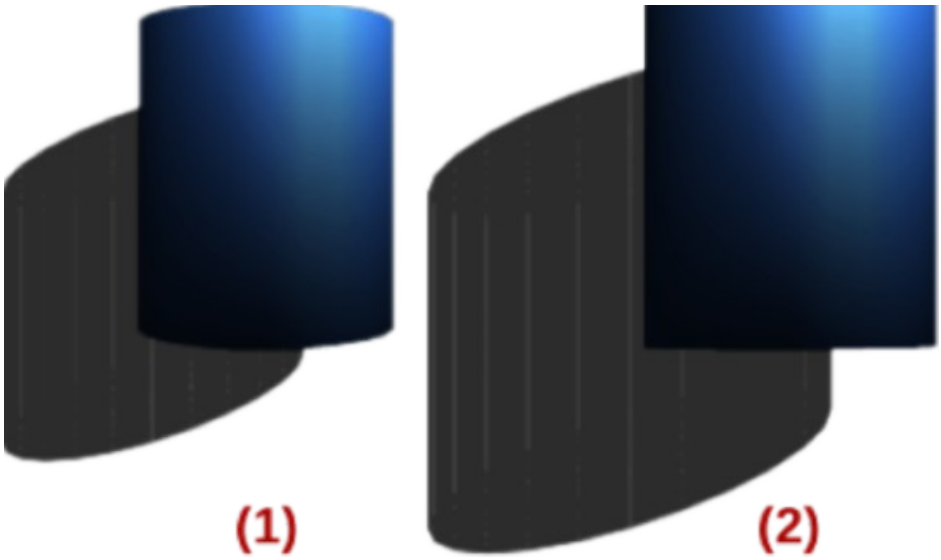

Figure 185: Example of using camera angles

(1) Default settings — distance 2.6 cm; focal length 10 cm

(2) Distance 10 cm; focal length 100 cm

Camera

Sets the camera options for a selected 3D scene as if a camera is being used to take a photograph (Figure 185). Settings affect only central perspective, not parallel projection.

Distance

Enter the distance to leave between the camera and the center of the selected 3D scene. The default setting for distance is 2.6cm.

Focal length

Enter the focal length of the camera lens. A small value corresponds to a fisheye lens and a large value to a telephoto lens. The default setting for focal length is 10cm.

3D Effects — Illumination

The **Illumination** page of the 3D Effects dialog (Figure 186) defines how a 3D scene is illuminated and illumination settings apply to all 3D objects in a scene. Light source direction, color, and ambient light are specified for a 3D scene. By default, one light source is already selected when the **Illumination** page opens. A maximum of eight sources can be used and each light source can use a different color.

Light source location and color are shown in the lower right corner of the **Illumination** page. The vertical slider bar adjusts the lighting angle and the horizontal slider bar rotates the light about the object. Alternatively, click on the light point and drag the light source to the required position.

To change the preview from a sphere to a cube, click on the small square to the right of the horizontal slider bar and below the vertical slider bar. Each light source selected is shown as a small colored sphere in the specified color. The larger colored sphere indicates the active light source.

Selecting a light source and setting the illumination effects is as follows:

1) Select a *Light* source to turn the light source on. The icon changes to an illuminated bulb.

2) Click again on the selected light source to adjust the color for the light source.

3) Select a color for the light from one of the color palettes in the *Light* source drop-down list. A different color can be used for each light source selected.

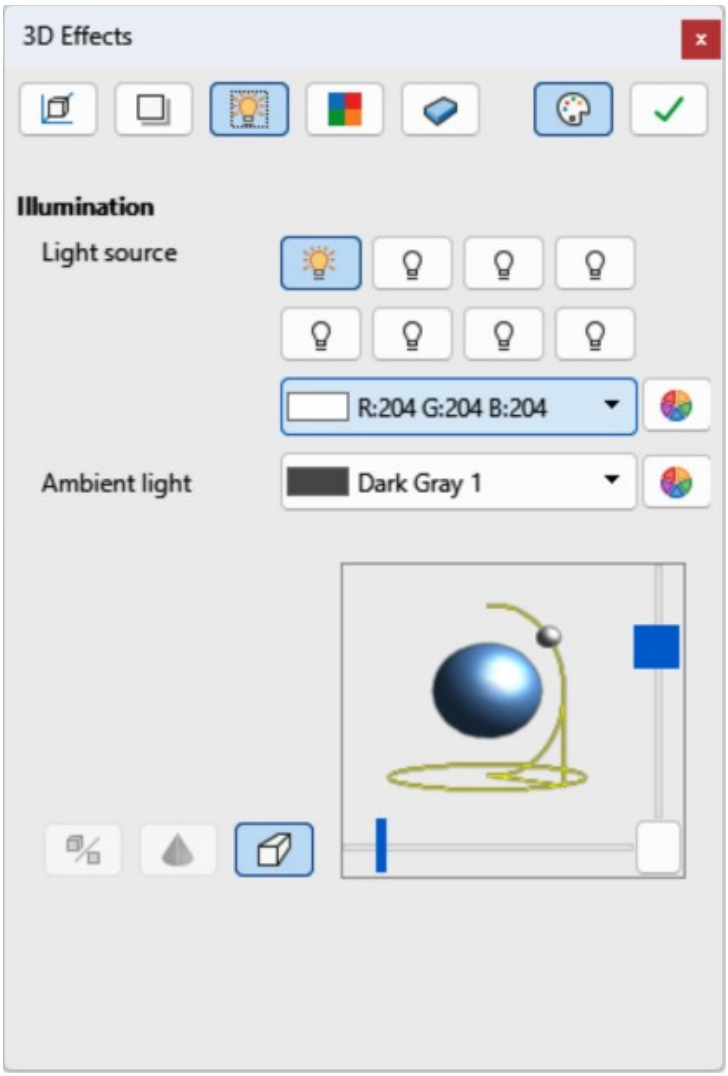

Figure 186: 3D Effects dialog — Illumination page

4) Select a color from one of the color palettes in the *Ambient* light drop-down list to set the color of the surrounding light.

5) To deselect a light source, select a light source already selected and click on the light source again.

3D Effects — Textures

The **Textures** page of the 3D Effects dialog (Figure 187) shows the surface texture properties set for a selected 3D object. The settings in the **Textures** page are only available if the area fill of a 3D object is set to *Gradient*, *Image*, *Pattern*, or *Hatch*. For more information on changing area fill, see Chapter 4, Changing Object Attributes.

Type

Sets the color properties of the texture.

Black & White

Converts the texture to black and white.

Color

Converts the texture to color.

Mode

Shows or hides shading.

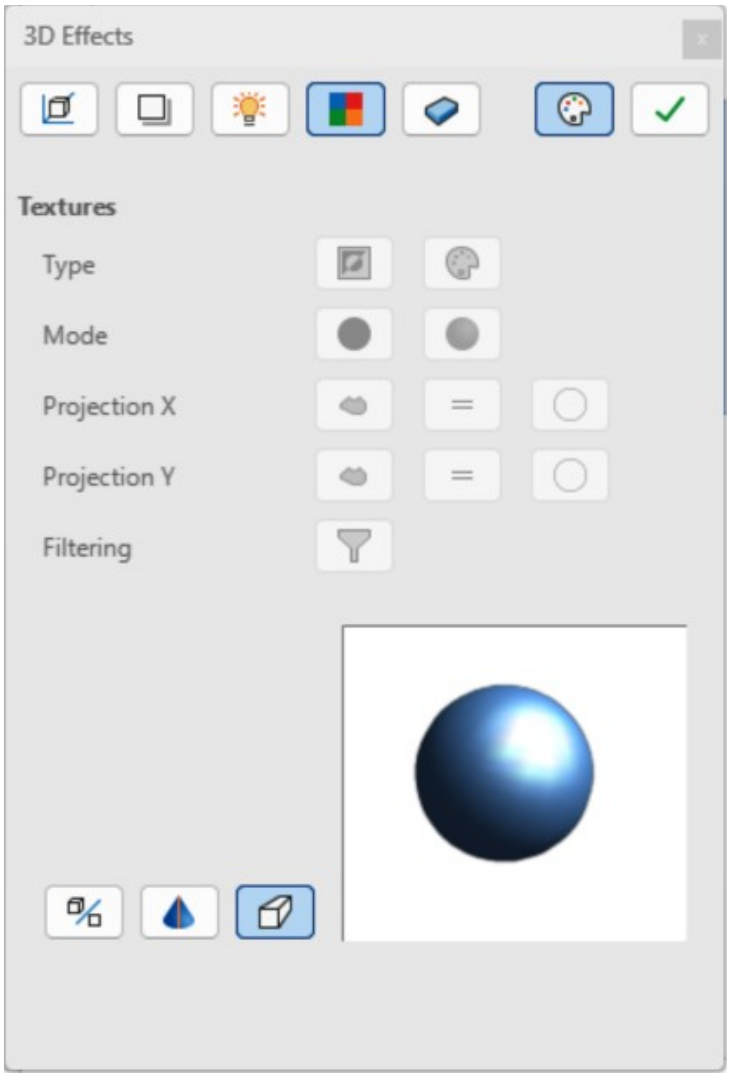

Figure 187: 3D Effects dialog — Textures page

Only Texture

Applies the texture without shading.

Texture and Shading

Applies the texture with shading to lighten or darken the illumination.

Projection X

Sets the options for displaying the texture along the X axis. Only one of the three following options can be selected.

Object-Specific

Automatically adjusts the texture for best fit based on the shape and size of the object. This is the default setting except for extrusion objects.

Parallel

Applies the texture parallel to the horizontal axis and is mirrored on the rear side of the object. This is the default setting for extrusion objects.

Circular

Wraps the horizontal axis of the texture pattern around an object.

Projection Y

Sets the options for displaying the texture along the Y axis. Only one of the three following options can be selected.

Object-Specific

Automatically adjusts the texture for best fit based on the shape and size of the object. This is the default setting except for extrusion objects.

Parallel

Applies the texture parallel to the vertical axis and is mirrored on the rear side of the object. This is the default setting for extrusion objects.

Circular

Wraps the vertical axis of the texture pattern around an object.

Filtering

Filters out noise that can occur when a texture is applied to a 3D object.

Filtering On/Off

Applies a soft focus filter blurring the texture slightly to remove unwanted speckles.

3D Effects — Material

The settings on the **Materials** page of the 3D Effects dialog (Figure 188) change the 3D object appearance to represent different materials. **Materials** and **Textures** can be combined with each other to achieve the desired result.

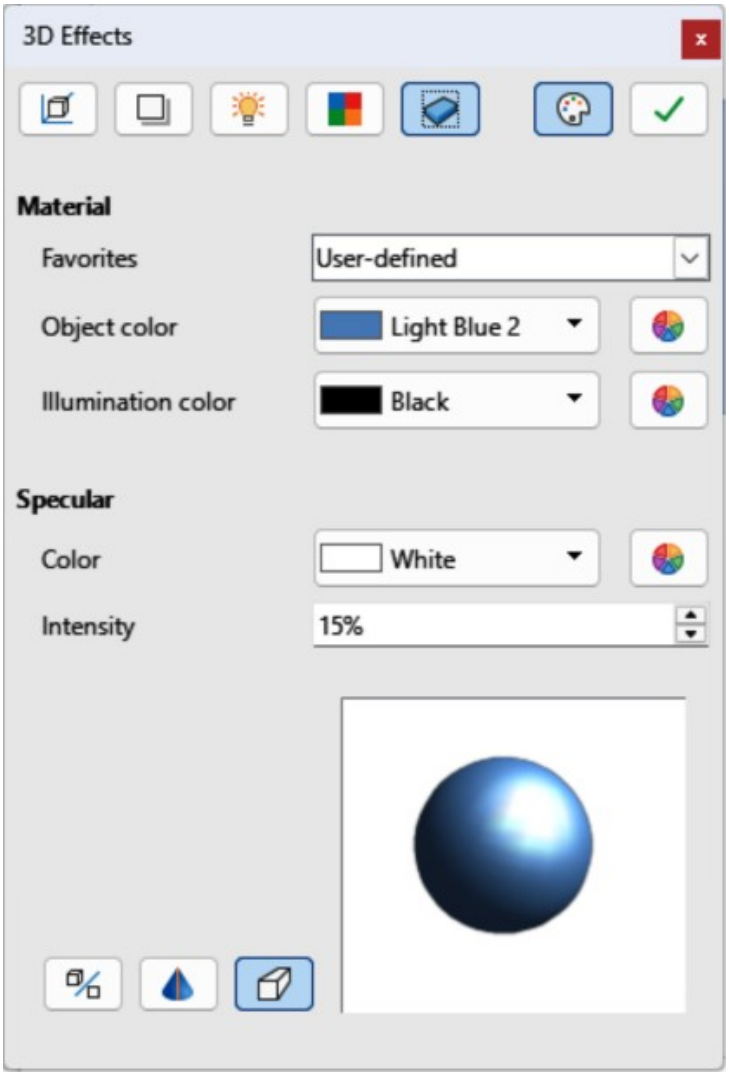

Figure 188: 3D Effects dialog — Materials page

Material

Assigns a color from a color palette. For custom colors, see Chapter 11, Advanced Draw Techniques for more information on creating custom colors.

Favorites

Select a material type for the selected object from the Favorites drop-down list.

Object color

Select a color from one of the color palettes in the Object color drop-down list to apply to the object.

Illumination color

Select a color from one of the color palettes in the Illumination color drop-down list. This illuminates the object and brightens parts of the object which lie in shadow making the object seem more illuminated.

Specular

Sets the light reflection properties for a selected object simulating the reflecting capacity of the surface. The position of an illuminated point is determined by the setting of the first light source.

Color

Select a color to be reflected from the object from one of the color palettes in the Color drop-down list.

Intensity

Enter the intensity of the specular effect as a percentage.

Colors Dialog

Opens the Pick a Color dialog where custom colors are defined using the 2D graphic and numerical gradient chart. Any colors created are stored in the custom palette. See Chapter 11, Advanced Draw Techniques for more information on creating custom colors.

Note

Metallic and glass surfaces do not simulate well because the appearance of these materials is produced using reflection.

Tip

Do not use a very high brightness value for individual colors. Colors are additive and it is easy to end up with a colored area that is white.

Combining objects

Multiple 3D objects cannot be combined using **Shape > Combine** on the Menu bar, or the keyboard shortcut *Ctrl+Shift+K* (macOS ⌘+*Shift+K*). Multiple 2D objects have to be created first, then a single 3D object created as follows (see Chapter 5, Combining Multiple Objects for more information on combining objects):

1) Create multiple 2D objects and carry out all necessary editing changes.

2) Make sure all 2D objects are selected to create a single 3D object.

3) Create a single 3D object combining the selected 2D objects using one of the following methods (examples of creating 3D objects are shown in Figure 189):

   – Click on **To 3D** or **To 3D Rotation Object** on the Drawing toolbar.

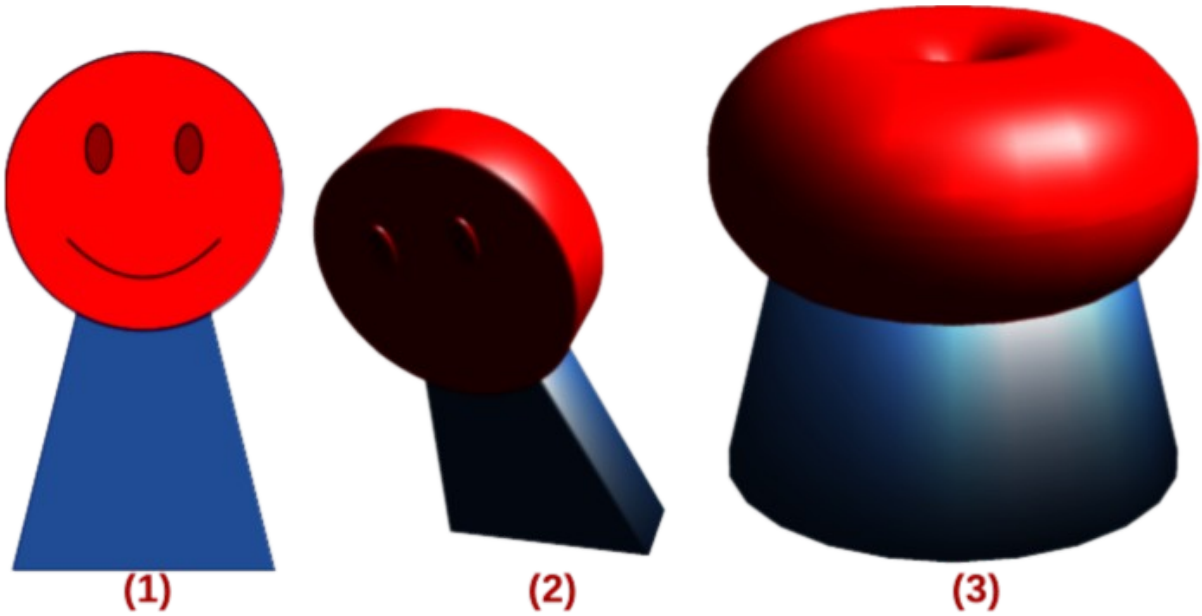

Figure 189: Example of creating 3D object from multiple 2D objects

(1) Multiple 2D objects combined
(2) 3D object created using **To 3D**
(3) 3D object created using **To 3D Rotation Object**

– Right-click on the selected multiple 2D objects and select **Convert > To 3D** or **To 3D Rotation Object** from the context menu.

– Go to **Shape > Convert > To 3D** or **To 3D Rotation Object** on the Menu bar.

Assembling 3D objects

3D objects that each form a separate 3D scene can be combined or assembled into a single 3D scene. An example procedure for assembling 3D objects is as follows and shown in Figure 190:

1) Select a 3D object (for example, a cube) from **3D Objects** on the Drawing toolbar, or Shapes deck on the Sidebar and place it in a drawing.
2) Select a second 3D object (for example, a sphere) from **3D Objects** on the Drawing toolbar, or Shapes deck on the Sidebar and place it in the drawing.
3) If necessary, set the area fill to **None** and the lines to **Continuous** to create wire frame objects. This makes it easier to position both objects in the assembled 3D scene.
4) Select the second 3D object (sphere) and go to **Edit > Cut** on the Menu bar, or right-click on the object and select **Cut** from the context menu.
5) Double-click the first 3D object (cube) to enter the group, or go **Shape > Group > Enter Group** on the Menu bar.
6) Go to **Edit > Paste** on the Menu bar, or right-click on the first 3D object and select **Paste** from the context menu. The sphere now appears inside the cube and is now part of the same group.
7) If required, edit the individual objects, or change their position within the group.
8) Double-click outside the 3D assembled scene to exit the group, or go to **Shape > Group > Exit Group** on the Menu bar.

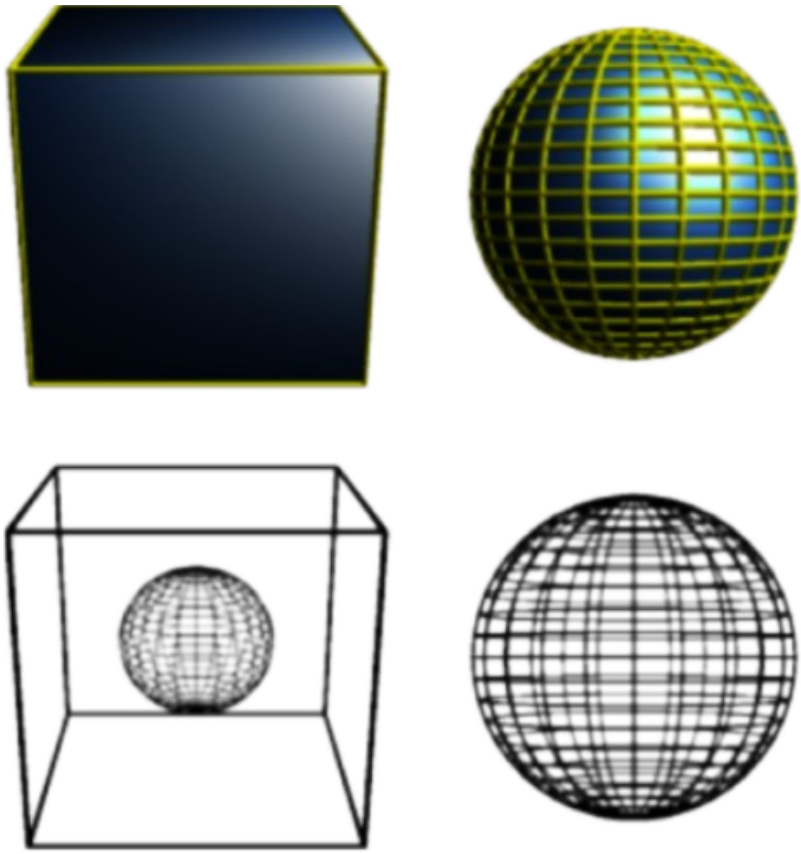

Figure 190: Example of assembling 3D objects

Note

The second object also reappears in its original position when **Paste** is carried out.
This object is NOT part of the assembled 3D scene and can be deleted if necessary.

Draw Guide 24.8

Chapter 8, Connections, Flowcharts, and Organization Charts

Connectors and gluepoints

Connectors are lines or arrows where the ends of a line, or arrow, automatically lock to a connection or gluepoint on the border of an object. Connector lines between objects remain connected to objects, even when objects are moved or rearranged. Also, when an object with a connector attached is moved or resized, the connector automatically adjusts its shape to accommodate the changes. For example, create a flowchart, or an organization chart, using connectors instead of simple lines removes the need to redraw lines between objects when making changes to a chart.

When a connector is created or selected, the selection handles are different to the normal selection handles used on lines or objects. The termination handles of a connector are round at the start and end points of a connector, and square in the center of the lines of a connector, as shown by the example of a straight connector in Figure 191. The square selection handles on the selected connector are used to change the routing of a connector.

Connectors

LibreOffice Draw has a comprehensive selection of connectors, for example, when used in a flowchart or organization chart. The default set of connectors can be accessed using one of the following methods:

- Click the triangle ▼ to the right of **Connectors** on the Drawing toolbar to open a pop-up toolbar. The **Connectors** icon changes shape depending on the last connector used.
- Select a connector from the options available in the **Connectors** panel in the Shapes deck on the Sidebar.

Connectors subtoolbar

If required, the connectors on the Drawing toolbar can be displayed as a Connectors subtoolbar as follows:

1) Click on the triangle ▼ on the right of **Connectors** on the Drawing toolbar to open a pop-up toolbar.

Figure 191: Example of connectors between objects

Figure 192: Connectors subtoolbar

(1) Connector Ends with Arrow
(2) Straight Connector Ends with Arrow
(3) Curved Connector Ends with Arrow
(4) Line Connector Ends with Arrow
(5) Connector
(6) Straight Connector
(7) Curved Connector
(8) Line Connector
(9) Connector Starts with Arrow
(10) Straight Connector Starts with Arrow
(11) Curved Connector Starts with Arrow
(12) Line Connector Starts Arrow
(13) Connector Ends with Circle
(14) Straight Connector Ends with Circle
(15) Curved Connector Ends with Circle
(16) Line Connector Ends with Circle
(17) Connector Starts with Circle
(18) Straight Connector Starts with Circle
(19) Curved Connector Starts with Circle
(20) Line Connector Starts with Circle
(21) Connector with Circles
(22) Straight Connector with Circle
(23) Curved Connector with Circle
(24) Line Connector with Circle

2) Click on the line at the top of the pop-up toolbar and drag the subtoolbar onto the Workspace.

3) Release the toolbar to create the Connectors subtoolbar (Figure 192).

Connector types and groups

The full range of available connectors are accessed by clicking on the triangle ▼ on the right of the Connectors subtoolbar and selecting **Visible Buttons** from the context menu. Depending on the computer system being used, connectors already installed on the Connectors subtoolbar are indicated either by a check mark against the name, or the connector icon is highlighted.

Connectors are grouped into four main groups as follows:

Connector

Standard connectors start with **Connector**. Line segments run vertically and horizontally. Creates a connector with one or more 90 degree angle bends.

Line

Line connectors start with **Line**. Consists of a line segment with two smaller segments at the ends and draws a connector that bends near a gluepoint. To adjust the length of the line segment between a bend point and a gluepoint, click on the connector and drag the selection handle.

Straight

Straight connectors start with **Straight**. Consists of a single line and draws a straight line connector.

Curved

Curved connectors start with **Curved**. Based on Bézier curves, a curved connector is drawn and bends around objects.

Connectors are installed on the Connectors subtoolbar in the same order they appear in the **Visible Buttons** drop-down list.

Adding connectors to objects

1) Click on the triangle ▼ on the right of **Connectors** on the Drawing toolbar to open the options available for selecting connectors.

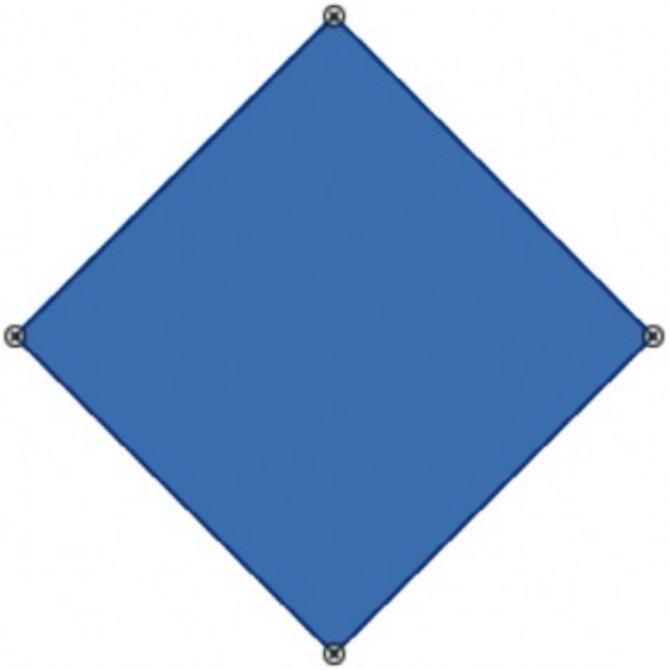

Figure 193: Example of object connector gluepoints

2) Select the type of connector required and move the cursor onto the first object. When the cursor is over an object, small crosses appear as gluepoints around the object edges replacing the object selection handles, as shown by the example in Figure 193.

3) Position the cursor over a gluepoint, then click and drag the cursor toward another object to start creating a connector. When the cursor reaches the target object, small crosses appear indicating the gluepoints around the object edges.

4) Move the cursor over the required gluepoint on the target object and release the connector to draw the connector. The round selection handles at each end of the connector are attached to the gluepoints on each object.

5) If necessary, use the square control handles that appear on the connector to adjust the connector route so that it does not cover any other object in the connector route. See “Modifying connectors” on page 194 for more information.

Notes

The start and end round selection handles of a connector cannot be swapped. To change the start and end points of a connector, the connector has to be deleted and a new connector drawn in the opposite direction.

The end point of a connector can also be positioned in an empty part of a drawing where it is locked into place. This end point can then be moved and attached to an object when required.

Modifying connectors

Connectors can be modified using one of the following methods:

- To detach or reposition a connector, click and drag one of the round selection handles of a connector line to a different location.
- To change the connector route between objects so that the connector does not overlap any objects on the route, click on one of the square selection handles on the connector line and drag it to a new position.

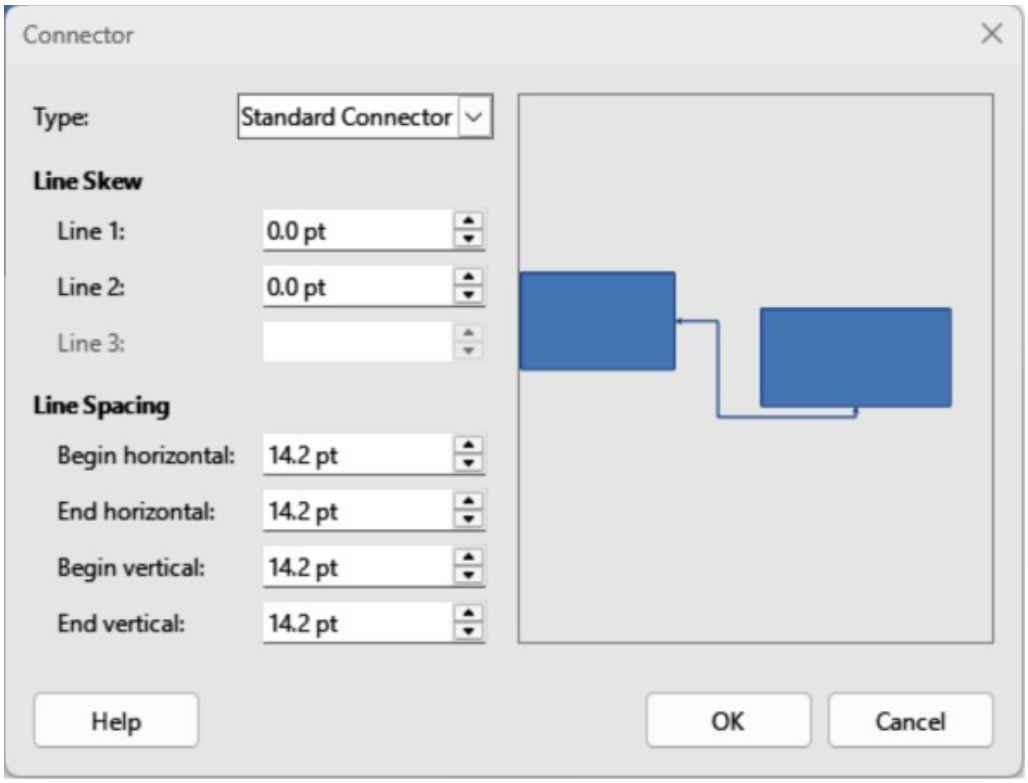

Figure 194: Connector dialog

- To modify a connector, right-click on the connector and select **Connector** from the context menu to open the Connector dialog (Figure 194). Use this dialog to change connector type and connector properties.

The options available in the Connector dialog are as follows:

Type

Select the connector type and group from the drop-down list. See “Connector types and groups” on page 193 for more information.

Line skew

Defines the skew of a connector line. The dialog preview displays the result of any changes.

Line spacing

Sets the spacing around a connector.

Begin horizontal

Enter the amount of horizontal space required at the beginning of a connector.

End horizontal

Enter the amount of horizontal space required at the end of a connector.

Begin vertical

Enter the amount of vertical space required at the beginning of a connector.

End vertical

Enter the amount of vertical space required at the end of a connector

Preview box

Displays a preview of the selected connector and the objects the connector is connected to. The preview changes as changes to the selected connector are made using the Connector dialog. A left click zooms in on the preview and a right-click zooms out.

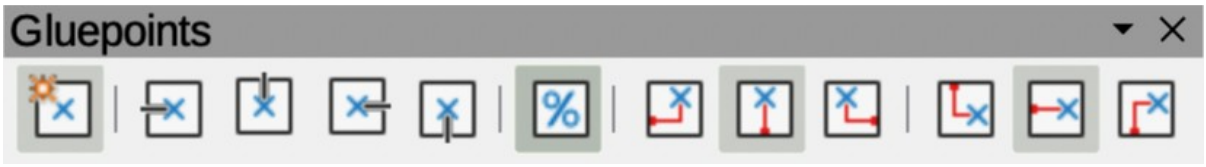

Figure 195: Gluepoints toolbar

Gluepoints

Gluepoints are not the same as object selection handles. The selection handles are for moving or changing the shape of an object (see Chapter 3, Working with Objects for more information). Gluepoints are used to fix or glue a connector to an object so that when the object moves, the connector stays fixed to that object.

All objects have gluepoints, as shown by the example in Figure 193 on page 194. Gluepoints are not normally displayed on an object and only become visible when a connector is selected using one of the following methods.

- Select **Connectors** on the Drawing toolbar. The connector icon displayed on the Drawing toolbar is the previous connector type used.
- Select a connector type in the **Connectors** panel in the Shapes deck on the Sidebar.

To add, customize or delete gluepoints, go to **View > Toolbars > Gluepoints** on the Menu bar to activate the Gluepoints toolbar (Figure 195). This toolbar only becomes visible after using one of the following methods:

- Select **Show Gluepoint Functions** on the Drawing toolbar.
- Select **Edit > Gluepoints** on the Menu bar.

Notes

Show Gluepoint Functions on the Drawing toolbar is not part of the default set of tools for the Drawing toolbar. To add **Show Gluepoint Functions** icon to the Drawing toolbar, right-click in an empty area on the Drawing toolbar and select **Visible Buttons > Gluepoints** from the context menu.

Each gluepoint added to an object can have only one horizontal position and one vertical position. Only one of the horizontal position tools and one of the vertical position tools can be selected and used at any one time.

Gluepoint types

When the Gluepoints toolbar opens, only the five tools on the left of **Gluepoint Relative** are active. The remaining six tools on the right of the toolbar only become active when **Gluepoint Relative** is deselected.

Insert Gluepoint

Inserts a gluepoint at the cursor position in an object when the button is clicked.

Exit Direction Left

Connector attaches to the left edge of the selected gluepoint.

Exit Direction Top

Connector attaches to the top edge of the selected gluepoint.

Exit Direction Right

Connector attaches to the right edge of the selected gluepoint.

Exit Direction Bottom

Connector attaches to the bottom edge of the selected gluepoint.

Gluepoint Relative

When selected, the gluepoint moves when an object is resized maintaining its position relative to the object borders. When deselected, a gluepoint can be repositioned after the object is resized. This tool is selected by default when the Gluepoint toolbar opens.

The following six tools only become active when **Gluepoint Relative** is deselected.

Gluepoint Horizontal Left

When an object is resized, the selected gluepoint remains fixed at the left edge of the object.

Gluepoint Horizontal Center

When an object is resized, the selected gluepoint remains fixed at the center of the object.

Gluepoint Horizontal Right

When an object is resized, the selected gluepoint remains fixed at the right edge of the object.

Gluepoint Vertical Top

When an object is resized, the selected gluepoint remains fixed at the top edge of the object.

Gluepoint Vertical Center

When an object is resized, the selected gluepoint remains fixed at the vertical center of the object.

Gluepoint Vertical Bottom

When an object is resized, the selected gluepoint remains fixed at the bottom edge of the object.

Adding gluepoints

By default, objects have four gluepoints, as shown in the example in Figure 193 on page 194. Additional gluepoints are added to an object as follows:

1) Go to **View > Toolbars > Gluepoints** on the Menu bar to activate the Gluepoints toolbar.
2) Make sure no objects are selected and use one of the following methods to open the Gluepoints toolbar:
   – Select **Show Gluepoint Functions** on the Drawing toolbar.
   – Select **Edit > Gluepoints** on the Menu bar.
3) Select the object, then click on **Insert Gluepoint** on the Gluepoints toolbar.
4) Move the cursor to the required position on the selected object and the cursor changes shape. Normally this is a cross, but the actual shape used depends on the computer setup.
5) Click once to add a gluepoint. To add more gluepoints, move the cursor to a new position and click.
6) When adding gluepoints is completed, move the cursor off the selected object and click in an empty space to deselect the object.

7) Alternatively, right-click on a gluepoint previously added to the object and select **Insert Gluepoint** from the context menu, then click and drag the new gluepoint to the required position.

8) Select the type of gluepoint required from the options available on the Gluepoints toolbar. See “Gluepoint types” on page 196 for more information.

Note

For objects with no fill, gluepoints are added to the border of an empty object.

Tip

When adding, moving or customizing gluepoints, it is recommended to use the zoom function making it easier to work with gluepoints. See Chapter 3, Working with Objects for more information. Also, gluepoints can snap to the grid making it easier to position a gluepoint.

Customizing gluepoint exit direction

Customize the exit direction for a gluepoint that is already added to an object as follows:

1) Go to **View > Toolbars > Gluepoints** on the Menu bar to activate and open the Gluepoints toolbar.

2) Double-click on a gluepoint that is already added to an object and select the gluepoint for customization.

3) Select the required exit direction for a connector attached to the gluepoint using one of the following methods:

   – Select the required exit direction on the Gluepoints toolbar.

   – Right-click on a gluepoint and select an exit direction from the context menu.

Customizing gluepoint positioning

Note

Only gluepoints that are added to an object can be customized. The default gluepoints (example shown in Figure 193 on page 194) included with an object cannot be customized or deleted.

Customize the horizontal and vertical positioning for a gluepoint that is already added to an object as follow:

1) Go to **View > Toolbars > Gluepoints** on the Menu bar to activate and open the Gluepoints toolbar.

2) Double-click on a gluepoint that on an object to select the gluepoint for customization.

3) Click on **Gluepoint Relative** on the Gluepoints toolbar to deselect the tool, or right-click on the gluepoint and select **Gluepoint Relative** from the context menu to deselect the tool.

4) Select the horizontal and vertical positioning tools required for the gluepoint using one of the following methods. Only one horizontal positioning tool and one vertical positioning tool can be used at any one time:

   – Click and select the required horizontal or vertical positioning tool in the Gluepoints toolbar.

– Right-click on the gluepoint and select the required horizontal and vertical positioning from the context menu.

Deleting gluepoints

1) Select a gluepoint for deletion that has previously been added to the object.
2) Press the *Delete* or *Backspace* key, or go to **Edit > Cut** on the Menu bar.

Connector text

Text is easily added and formatted to connectors making a flowchart or organization chart easier to follow. See Chapter 9, Adding and Formatting Text for more information on working with and formatting text.

Adding text

1) Select a connector and the control points become active.
2) Enter text mode using one of the following methods. A flashing text cursor appears close to the connector and the Text Formatting toolbar (Figure 196) opens.
   – Click on **Insert Text Box** or **Insert Vertical Text** (if added) on the Drawing toolbar.
   – Use the keyboard shortcut *F2* to create horizontal text on the selected connector.
3) Type the required text for the connector.
4) If necessary, format the connector text. See “Formatting text” on page 199 for more information on formatting and editing text text.
5) When adding and formatting text is complete, move the cursor away from the text and connector, then click to end text mode. This also closes the Text Formatting toolbar.

Note

With a default installation of LibreOffice, the **Insert Text Box** and **Insert Vertical Text** tools may not be installed on the Drawing toolbar. To add text tools to the Drawing toolbar, right-click in an empty area in the Drawing toolbar and go to **Visible Buttons**, then select **Text Box** and/or **Vertical Text** from the context menu.

Formatting text

1) Select a connector with text added and activate the control points to enter text mode. See “Adding text” on page 199 for more information on adding text to a connector.
2) Use the tools available on the Text Formatting toolbar, or the options available in **Format > Text** on the Menu bar to format the text. By default, connector text is formatted with horizontal central alignment and vertical central positioning for the connector text paragraph.
3) Right-click on the connector text and select **Text Attributes** from the context menu to open the Text dialog (Figure 197) and format the connector text using the options available in the dialog.
4) Click **OK** to save the changes to the text and close the Text dialog.
5) Move the cursor away from text and connector, then click to end the text mode. This also closes the Text Formatting toolbar.

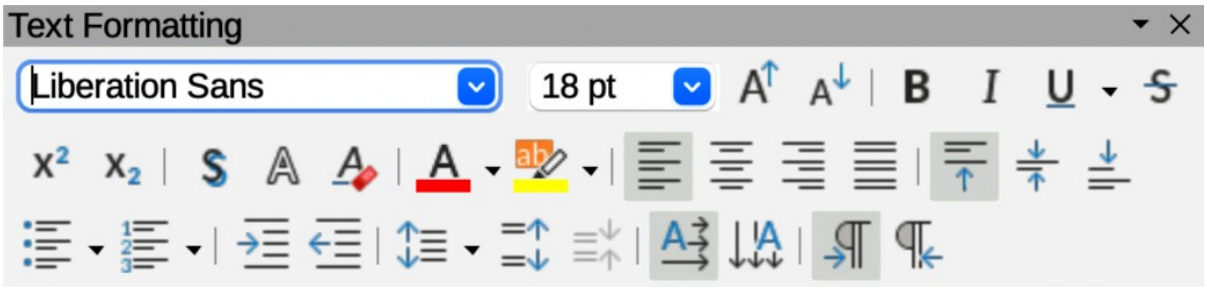

Figure 196: Text Formatting toolbar

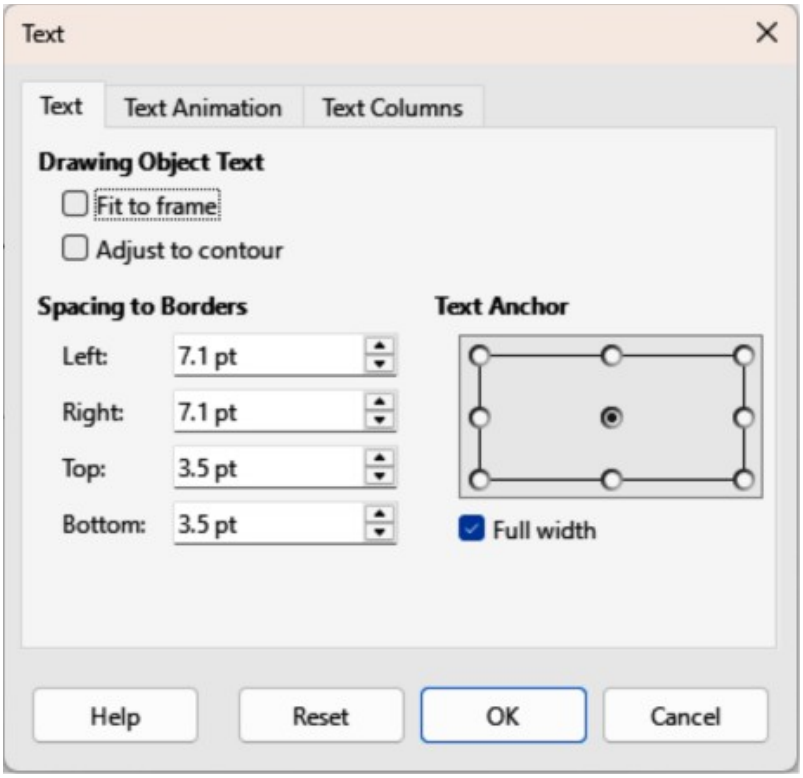

Figure 197: Text dialog — Text page

Notes

The options available for text animation are not recommended for connector text unless the drawing is going to be displayed as part of a presentation. See the *Impress Guide* for more information on text animation.

The options available for text columns are not recommended for connector text. Text columns are normally used for text that is placed into a text box when adding information to a drawing, or into an object such as a rectangle or circle. For more information on text columns, see Chapter 9, Adding and Formatting Text.

The options available in the Text dialog are as follows:

Drawing Object Text

Fit to frame

Resizes the text to fit the entire area of a connector rectangle or frame.

Adjust to contour

Adapts the text flow so that it matches the contours of the selected connector.

Spacing to Borders

Specify the amount of space to leave between the connector and the borders of the text.

Text Anchor

Select one of nine positions to anchor the text within the connector rectangle.

Full width

Anchors the text to the full width of the connector rectangle. When selected, only the top, middle and bottom center positions can be used to anchor the text.

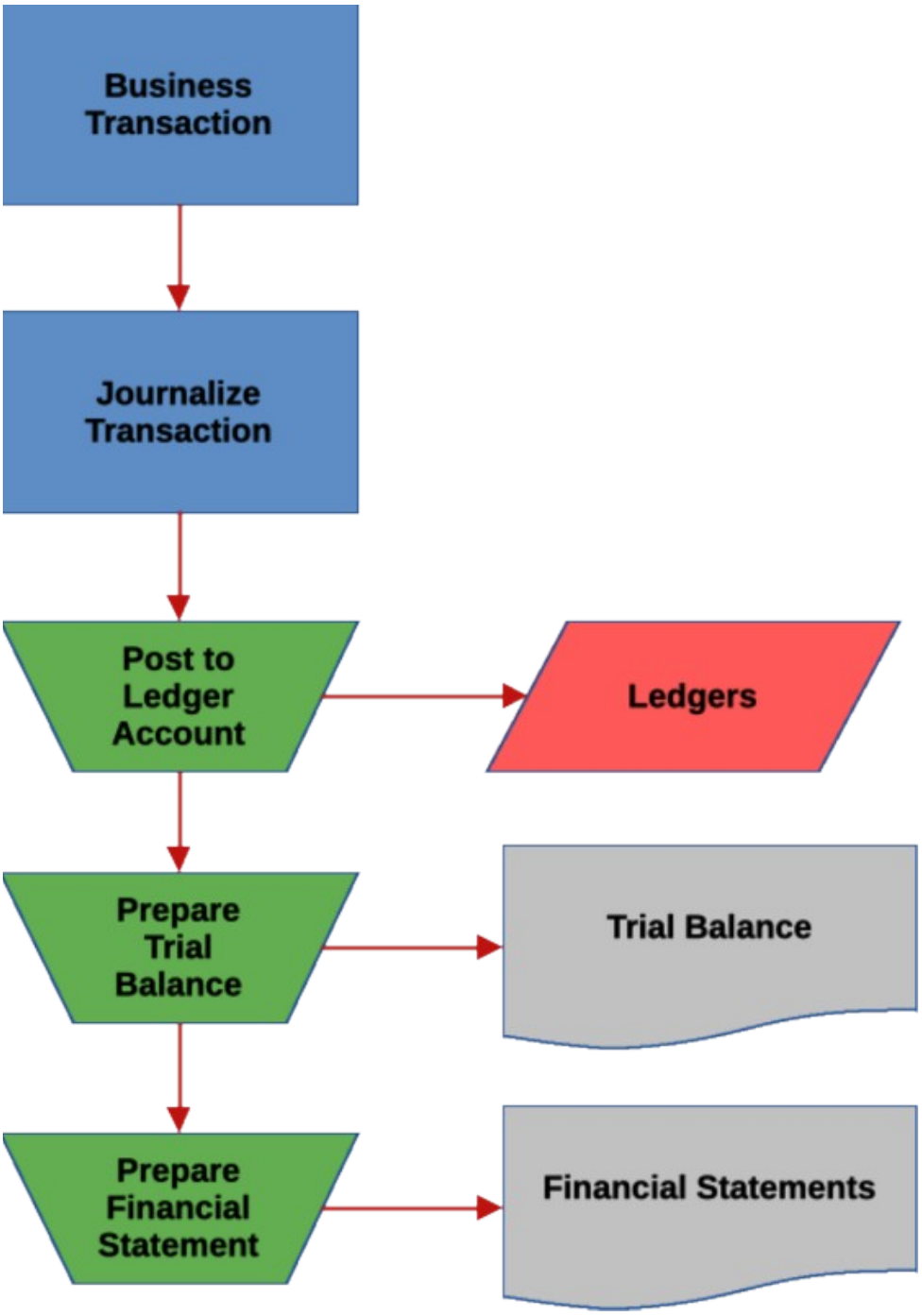

Figure 198: Example flowchart

Figure 199: Flowchart subtoolbar

(1) Flowchart: Process
(2) Flowchart: Alternate Process
(3) Flowchart: Decision
(4) Flowchart: Data
(5) Flowchart: Predefined Process
(6) Flowchart: Internal Storage
(7) Flowchart: Document
(8) Flowchart: Multidocument
(9) Flowchart: Terminator
(10) Flowchart: Preparation
(11) Flowchart: Manual Input
(12) Flowchart: Manual Operation
(13) Flowchart: Connector
(14) Flowchart: Off-page Connector
(15) Flowchart: Card
(16) Flowchart`: Punched Type
(17) Flowchart: Summing Junction
(18) Flowchart: Or
(19) Flowchart: Collate
(20) Flowchart: Sort
(21) Flowchart: Extract
(22) Flowchart: Merge
(23) Flowchart: Stored Data
(24) Flowchart: Delay
(25) Flowchart: Sequential Access
(26) Flowchart: Magnetic Disc
(27) Flowchart: Direct Access Storage
(28) Flowchart: Display

Flowcharts

An example flowchart is shown in Figure 198 and the following basic steps are used when creating a flowchart:

- When adding objects or flowchart shapes to a flowchart, see Chapter 2, Drawing Basic Shapes for information on how to draw and resize object shapes.
- Add text to each flowchart shape to make it easily identified in the flowchart. See Chapter 2, Drawing Basic Shapes and Chapter 11, Advanced Draw Techniques for more information.
- Use connector lines in a flowchart. This allows repositioning of an object in a flowchart while maintaining connections with the other objects in the flowchart. See “Who is this user guide for?” on page 8 for more information.
- Use the zoom, grid, and snap functions to help in positioning objects in a flowchart. See Chapter 3, Working with Objects and Object Points for more information.
- Use the alignment and distribution functions to give a flowchart a more professional look. See Chapter 5, Combining Multiple Objects for more information.
- Use the Flowchart subtoolbar (Figure 199) and its a large selection of flowchart tools to create a flowchart (also known as flow diagrams). Click on **Flowchart** on the Drawing toolbar to open the Flowchart subtoolbar.

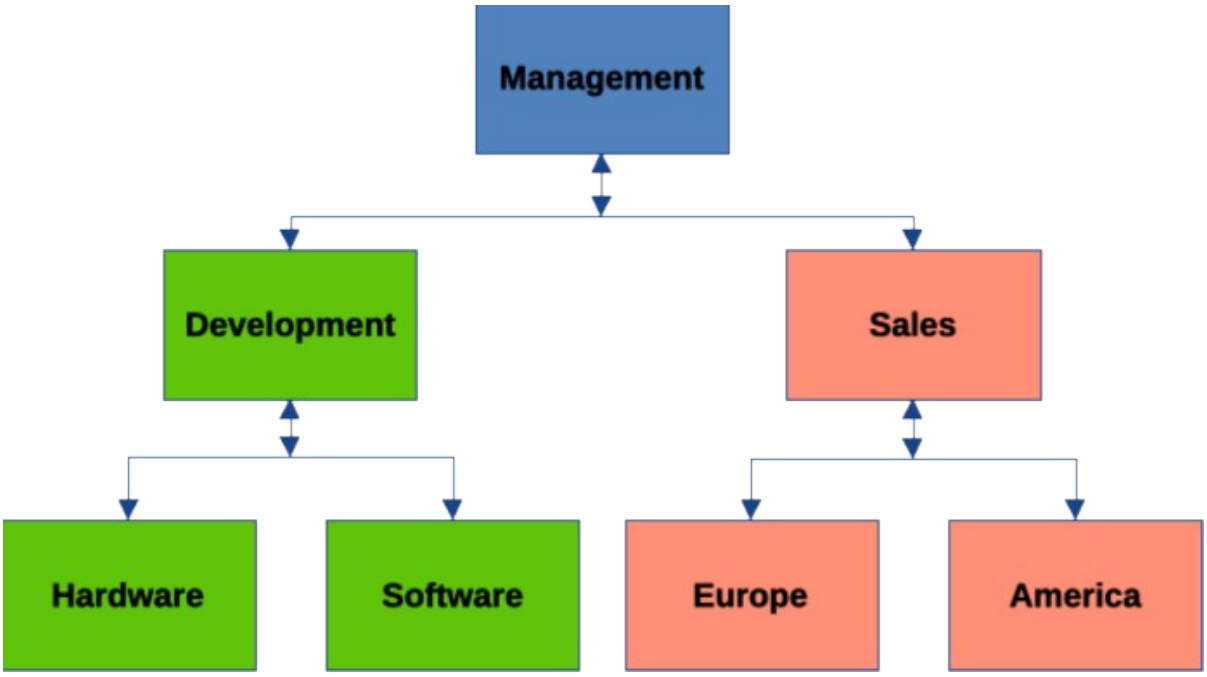

Figure 200: Example organization chart

Organization charts

Draw does not have a toolbar for organization charts, but these charts are easily created using basic shapes, flowchart shapes, and connectors. Hierarchy in an organization is easily indicated using shading and/or color. When using shading and color in an organization chart, make sure the selection provides a good contrast between the text and the shading or color. This makes the chart easy to read on a computer display, or in a printed document. An example of an organization chart is shown in Figure 200.

- When adding objects to a chart, see Chapter 2, Drawing Basic Shapes for information on how to draw and resize object shapes.
- Add text to each object in the organization chart to make it easily identified in the chart. See Chapter 2, Drawing Basic Shapes and Chapter 11, Advanced Draw Techniques for more information.
- Use connectors in an organization chart. This allows repositioning of an object in a chart while maintaining connections with the other objects in the chart. See “Who is this user guide for?” on page 8 for more information.
- Use the zoom, grid, and snap functions to help in positioning objects in a chart. See Chapter 3, Working with Objects and Object Points for more information.
- Use the alignment and distribution functions to give an organization chart a more professional look. See Chapter 5, Combining Multiple Objects for more information.
- Duplicate objects when more than one of the same shape and size is required. See Chapter 5, Combining Multiple Objects for more information.

Draw Guide 24.8

Chapter 9, Adding and Formatting Text

Introduction

Text used in drawings is placed inside an object or text box. This chapter provides information on how to create, format, use, delete text, and information for various types of text that can be inserted into a drawing. Also, information is included on how to insert special forms of text such as ordered or unordered lists, tables, fields, hyperlinks, columns, and Fontwork.

Note

When selecting text tools to add text to a drawing, Draw automatically switches to text mode. Also, the Text Formatting toolbar (Figure 201) automatically opens replacing the Line and Filling toolbar at the top of the drawing.

Text mode

Activating text mode

Before text is inserted into a drawing, text mode must be activated using one of the following methods.

- For horizontal text only, go to **Insert > Text Box** on the Menu bar.
- For horizontal text only, use the keyboard shortcut *F2*.

Click on **Insert Text Box** for horizontal text, or **Insert Vertical Text** for vertical text on the Drawing toolbar (Figure 202), or Text toolbar (Figure 203).

Adding vertical text

If **Insert Vertical Text** is not available on the Drawing toolbar (Figure 202), it is added to the toolbar as follows:

1) Go to **Tools > Options > Language Settings > Languages** (macOS **LibreOffice > Preferences > Language Settings > Languages**) on the Menu bar to open the **Languages** page in the Options dialog.
2) In **Default Languages for Documents**, select the option *Asian*. Accept the default settings for this option.
3) Click **OK** to close the Options dialog and save the changes.
4) Right-click in an empty area on the Drawing toolbar, or the downward triangle ▼, and select **Visible Buttons** from the context menu.
5) Select **Vertical Text** from the drop-down list of options to add **Insert Vertical Text** to the Drawing toolbar.

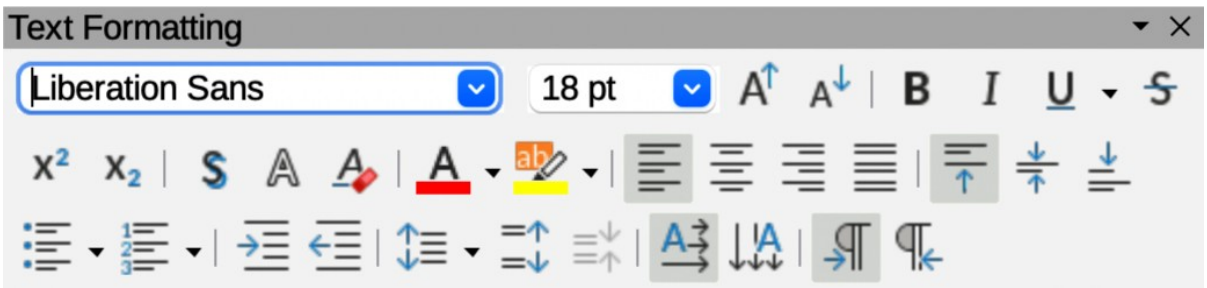

Figure 201: Text Formatting toolbar

Figure 202: Drawing toolbar

Figure 203: Text toolbar

Adding vertical text

If **Insert Vertical Text** is not available on the Drawing toolbar (Figure 202), it is added to the toolbar as follows:

1) Go to **Tools > Options > Language Settings > Languages** (macOS **LibreOffice > Preferences > Language Settings > Languages**) on the Menu bar to open the **Languages** page in the Options dialog.
2) In **Default Languages for Documents**, select the option *Asian*. Accept the default settings for this option.
3) Click **OK** to close the Options dialog and save the changes.
4) Right-click in an empty area on the Drawing toolbar, or the downward triangle ▼, and select **Visible Buttons** from the context menu.
5) Select **Vertical Text** from the drop-down list of options to add **Insert Vertical Text** to the Drawing toolbar.

Text toolbar

It is recommended to have the Text toolbar (Figure 203) available in Draw when working with text. If the Text toolbar is not available, go to **View > Toolbars** on the Menu bar and select **Text** from the context menu to add it to the Draw workspace.

Text boxes

Creating text boxes

When text is added to a drawing, a text box is automatically created. By default, the text box either expands horizontally to accommodate a single line of horizontal text, or vertically to accommodate a single line of vertical text.

Note

Text boxes are only for text and cannot contain illustrations, inline pictures, formulas, tables, or objects.

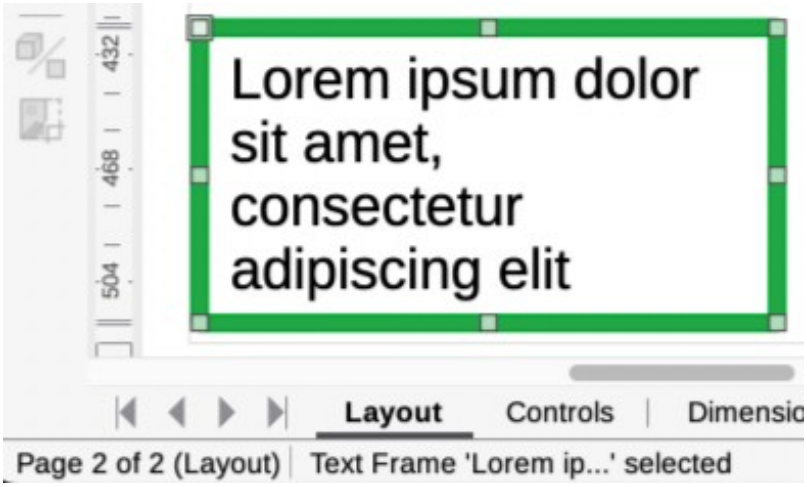

Figure 204: Example of text information on Status Bar

1) Activate text mode in Draw for horizontal or vertical, see “Activating text mode” on page 206. The Text Formatting toolbar automatically opens, replacing the Line and Filling toolbar.
2) Click at the approximate position in the drawing to insert the text box. A text box is created containing a flashing text cursor for the operating system and computer setup being used.
3) Type or paste the text into the text box and the text box expands either horizontally or vertically to accommodate a single line of text. Also, the left corner of the **Status Bar** indicates text edit mode and the position of the text cursor (Figure 204).
4) To create multiple lines in the text box, use one of the following methods:
   – Press the *Enter* key at the end of a line of text to create single line paragraphs inside the text box. The text box expands to accommodate more lines of text.
   – For horizontal text, click and drag the text cursor horizontally creating a text box with the approximate width required. As the limits of the text box are reached, the text automatically word wraps inside the text box and increases text box height as more text lines are added.
   – For vertical text, click and drag the text cursor vertically creating a text box with the approximate height required. As the limits of the text box are reached, the text automatically word wraps inside the text box and increases text box width as more text lines are added.
5) Move, resize, rotate or format the text box as required. For more information, see the following sections and Chapter 3, Working with Objects.
6) Format the text using the various tools on the Text Formatting toolbar. For more information on text formatting, see “Formatting text” on page 217.
7) When adding and formatting text is completed, click outside the text box to save the changes and deselect the text box.

Text box borders

By default, when a text box is created, the borders of the text box are only displayed when the text box is selected. If necessary, use one of the following methods to create a visible border around the text box.

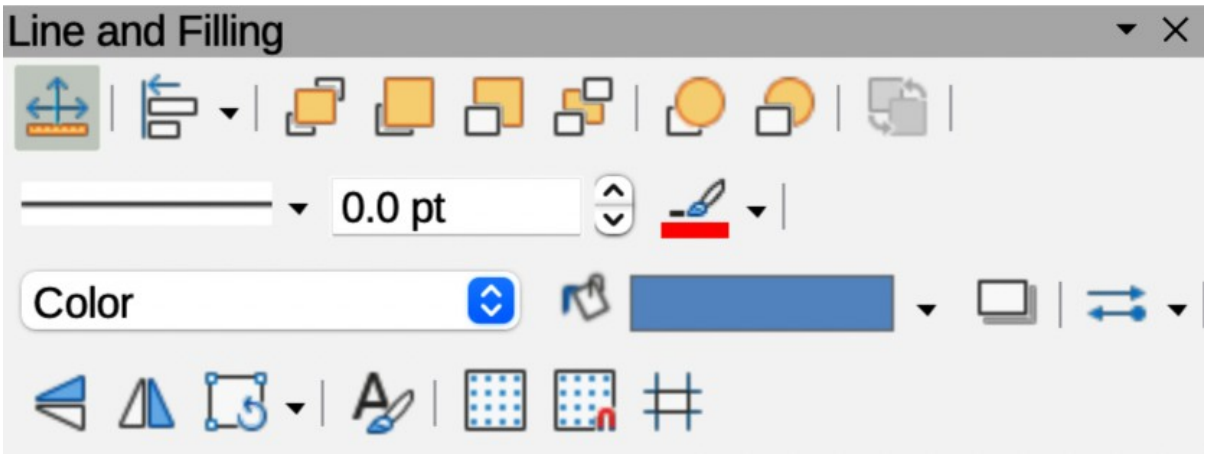

Figure 205: Line and Filling toolbar

Line and Filling toolbar

1) Click on a text box to select it and display the border indicating that the text box is in edit mode.
2) If the Line and Filling toolbar is not visible, go to **View > Toolbars > Line and Filling** on the Menu bar to open the toolbar.
3) In **Line Style** on the Line and Filling toolbar (Figure 205), select a line style from the options in the drop-down list.
4) In **Line Thickness** on the Line and Filling toolbar, enter a line width for the text box border.
5) In **Line Color** on the Line and Filling toolbar, select a color from one of the available color palettes, or create a custom color.
6) Click outside the text box to exit edit mode and save the changes.

Line dialog

1) Click on a text box to select it and display the border indicating that the text box is in edit mode.
2) Open the Line dialog (Figure 206) using one of the following methods:
   – Right-click on the text box border and select **Line** from the context menu.
   – Go to **Format > Line** on the Menu bar.
3) Click on **Line** to open the **Line** page.
4) Click on **Line** to open the **Line** page.
5) In *Style*, select a line style from the drop-down list to use as a text box border.
6) In *Color*, select a color for the line style from one of the available color palettes, or create a custom color.
7) In *Thickness*, enter a width for the line style selected.
8) In *Transparency*, enter a percentage value for the line style, if required.
9) In *Corner Style*, select the type of corner style from the drop-down list.
10) Click **OK** to save the changes and close the Line dialog, then click outside the text box to exit edit mode.

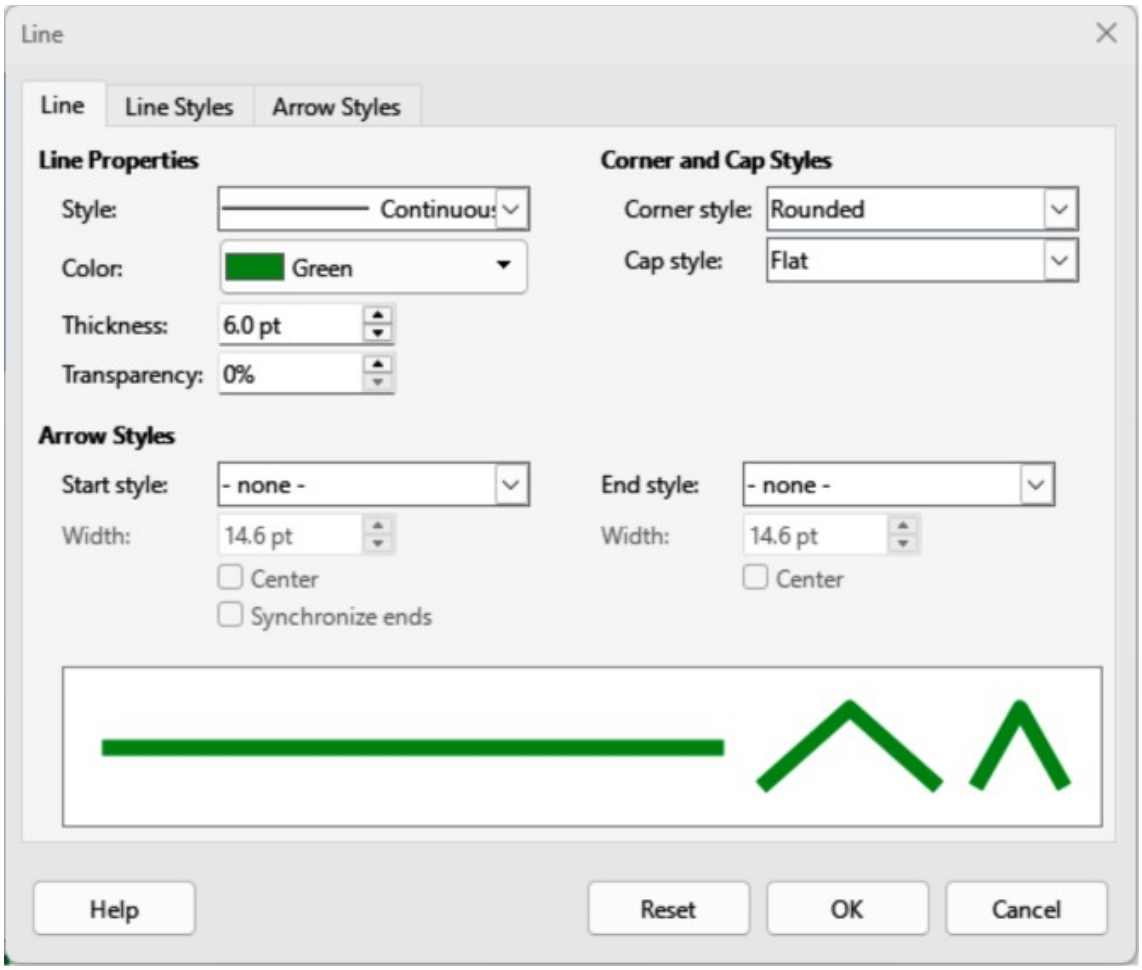

Figure 206: Line dialog — Line page — Text box border

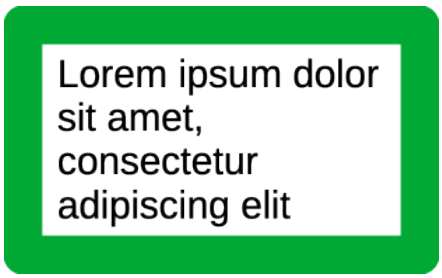

Figure 207: Example of using rounded corners on a text box

Note

For a corner style to be clearly visible in a text box border, it is recommended to set the line thickness above 0.35cm, as shown by the example in Figure 207.

Line panel in Sidebar

1) Click on a text box to select it and display the border indicating that the text box is in edit mode.
2) In the Sidebar, click on **Properties** to open the Properties deck in the Sidebar, then click on **Line** to open the **Line** panel (Figure 208).
3) In *Line*, select a line style from the drop-down list to use as a text box border.
4) In *Thickness*, enter a width for the line style selected.

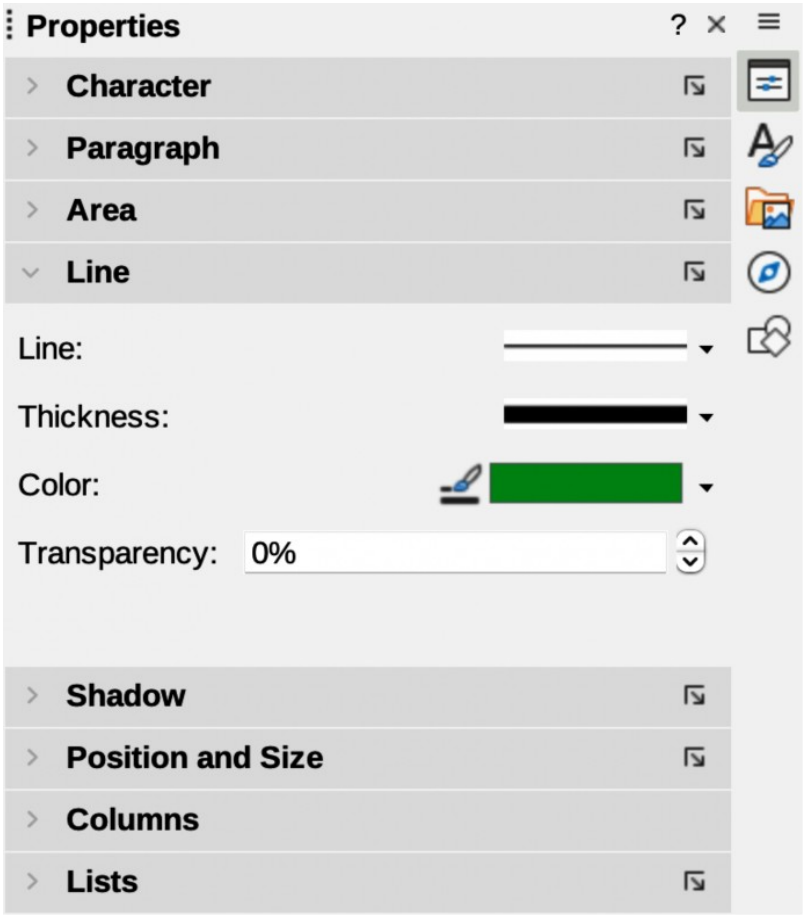

Figure 208: Line panel in Properties deck on Sidebar for Text Box

5) In *Color*, select a color for the line style from one of the available color palettes, or create a custom color.

6) In *Transparency*, enter a percentage value for the line style, if required.

7) Click outside the text box to exit edit mode.

Moving text boxes

1) Click on a text box to select it. The border is displayed indicating that the text box is in edit mode.

2) Move the cursor over the border. The cursor changes shape to the move symbol for the computer setup (for example, a clenched hand).

3) Click on the border and drag the text box to a new position in the drawing. A ghosted outline of the text box shows where it will be placed (Figure 209).

4) Release the text box when it is in the required position.

5) To accurately position a text box, use the Position and Size dialog, or the **Position and Size** panel in the Properties deck on the Sidebar. See Chapter 3, Working with Objects for more information.

6) When the text box is in the required position, click outside the text box to save the changes and deselect the text box.

Figure 209: Example moving a text box

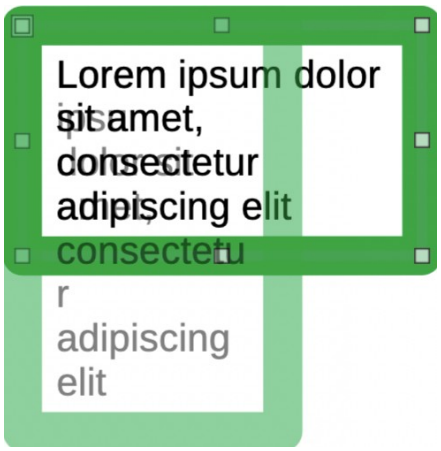

Figure 210: Example resizing a text box

Resizing text boxes

1) Click on a text box to select it and display the border indicating that the text box is in edit mode.
2) Move the cursor over one of the selection handles. The cursor changes shape to the resizing symbol for the computer setup (for example, a double-headed arrow). The selection handles are used to resize the text box as follows:
3) Corner handles change the width and height of the text box simultaneously.
4) Top and bottom selection handles change the height of the text box.
5) Right and left selection handles change the width of the text box.
6) Click and drag the border to a new position to resize the text box. A ghosted outline of the text box shows is displayed as the text box is resized, as shown by the example in Figure 210.
7) Release the text box when it reaches the required size.
8) To accurately resize a text box, use the Position and Size dialog, or the **Position and Size** panel in the Properties deck on the Sidebar. See Chapter 3, Working with Objects for more information.
9) When the text box is at the required size, click outside the text box to save the changes and deselect the text box.

Note

When resizing a text box, press and hold the *Shift* key to maintain text box proportions, then click and drag a selection handle to resize. Release the cursor before releasing the *Shift* key.

Figure 211: Example rotating a text box

Rotating text boxes

1) Click on a text box to select it and display the border indicating that the text box is in edit mode.
2) Click again on the text border and the selection handles change shape and color to indicate rotation mode. Also, a rotation point appears in the center of the text box.
3) Click on a corner selection handle and drag to rotate the text box. A ghosted outline of the text box being rotated around the rotation point appears and the current angle of rotation is shown in the status bar (Figure 211).
4) If required, click and drag the rotation point to a new position and change rotation angle of the text box. The rotation point can be positioned outside of the text box.
5) Release the text box when it is at the required rotation angle.
6) To accurately rotate a text box, use the **Rotation** page in Position and Size dialog, or the **Position and Size** panel in the Properties deck on the Sidebar. See Chapter 3, Working with Objects for more information.

Note

When rotating a text box, the top, bottom, and side selection handles are visible, but not available for rotating a text box. Also, text boxes cannot be sheared, slanted, or flipped vertically/horizontally.

Formatting text boxes

The formatting options available for area fill and box borders of text boxes are the same as other objects in a drawing. After formatting a text box to match the drawing requirements, the text attributes are formatted to make the text appear correctly inside the text box. See Chapter 3, Working with Objects for more information on formatting the area fill or borders of a text box.

1) Select a text box and use one of the following methods to open the Text dialog (Figure 212).
   - Right-click on the text box and select **Text Attributes** from the context menu.
   - Go to **Format > Text Attributes** on the Menu bar.
2) Click on **Text** in the Text dialog to open the **Text** page and access to the formatting options.

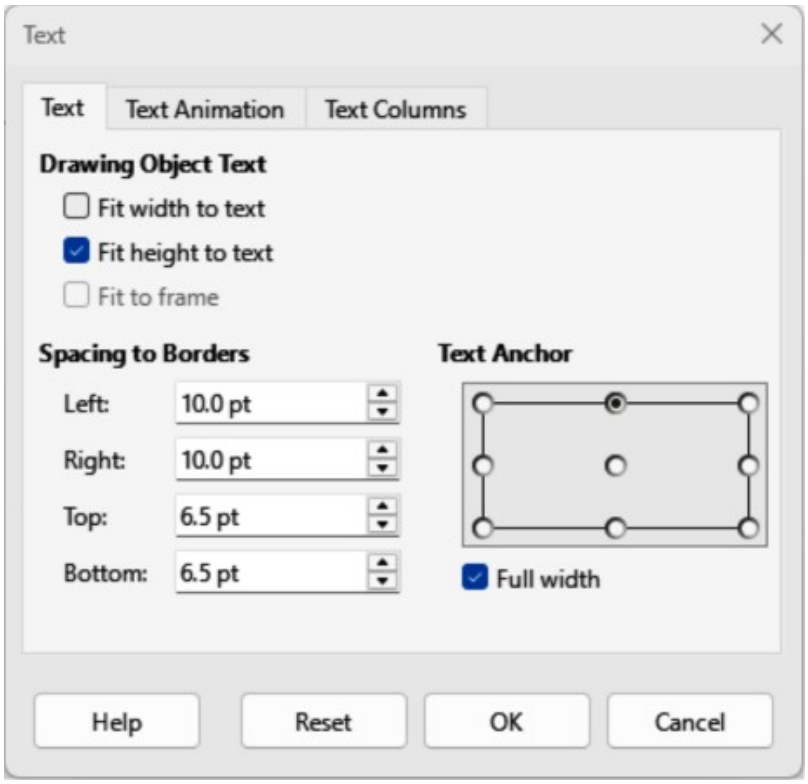

Figure 212: Text dialog — Text page — Drawing Object Text

3) If required, click on **Text Animation** to open the **Text Animation** page to access options for animating the text. For more information on using text animation in a drawing, see “Text animation” on page 228.

4) If required, click on **Text Columns** to open the **Text Columns** page to access options for creating columns in a text box. For more information on using text columns in a drawing, see “Text columns” on page 225.

5) Click **OK** to save the changes to text attributes and close the Text dialog.

6) Click in a blank space to deselect the text box and end the text editing mode.

Text box formatting options

Drawing Object Text

Fit width to text

Expands or reduces text box width to match the length of the text, if the text box is smaller or larger than the text. Can be used with *Fit height to text* to automatically adjust width and height of the text box to the text.

Fit height to text

Expands or reduces text box height to match the height of the text, if the text box is smaller or larger than the text. Can be used with *Fit width to text* to automatically adjust width and height of the text box to the text.

Fit to frame

Resizes text width and height to use the entire area of a text box without changing text box width or height. This option is not available if *Fit width to text* and/or *Fit height to text* options are selected.

Spacing to Borders

Specify the amount of space to create margins between the text and the borders of a text box.

Text Anchor

Anchors the text to one of nine positions within a text box. The left and right anchor positions can only be selected when **Full width** is NOT selected. A text anchor only determines the position of the text within a text box and does not change the paragraph alignment of text inside a text box.

Full width

When selected, text box width expands to fit the longest paragraph of text inside a text box as a single line. When selected, only the top, middle or bottom center positions in **Text Anchor** can be used to anchor text inside a text box.

Deleting text boxes

1) Click on the text box so that the selection handles are visible indicating that the text box is in edit mode.
2) Press the *Delete* or *Backspace* key. The text box is deleted without any warning.

Text in objects

By default, an object is not dynamic when first created in Draw and does not behave like a text box. Any text placed inside a Draw object does not word wrap.

To keep text within the borders of an object, use paragraphs, line breaks, smaller text size, increasing object size, or a combination of all methods. Actual method method available depends on the type of object selected.

Note

Text can be added to most objects. However, text cannot be added to 3D objects, or control elements such as buttons.

Adding text to objects

An example of adding text into a object is shown in Figure 213. The top object does not have the word wrap option applied and the bottom object has the word wrap option applied.

1) Create an object in a drawing and make sure the object is selected with the selection handles displayed.

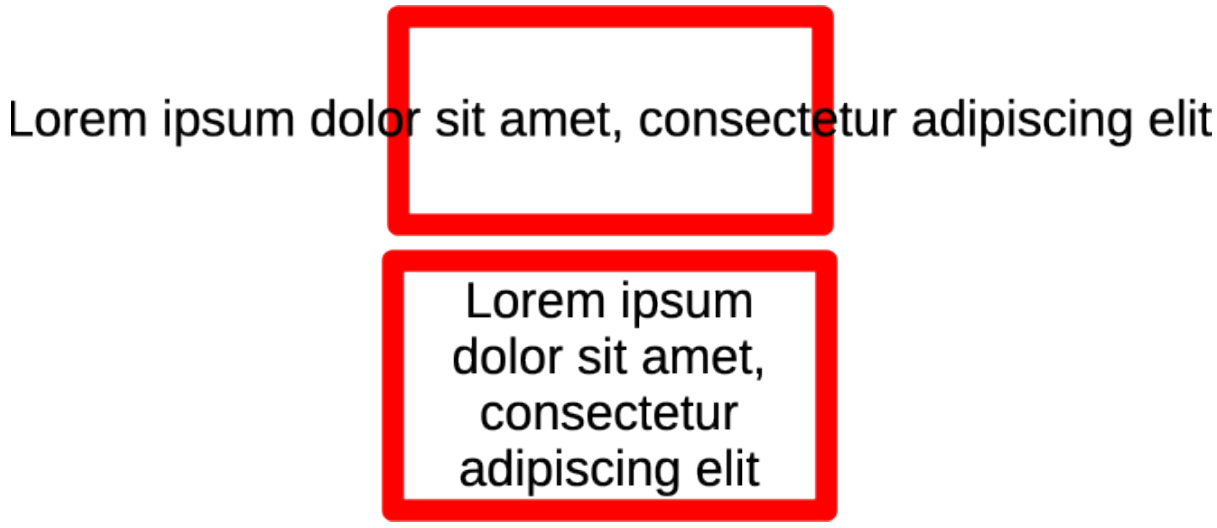

Figure 213: Example of text word wrap inside an object

2) Enter text mode on the selected object using one of the following methods:
   – Click on **Insert Text Box** for horizontal text, or **Insert Vertical Text** for vertical text on the Drawing or Text toolbar.
   – For horizontal text, double-click on the selected object.
   – For horizontal text, use the keyboard shortcut *F2*.
3) Type or paste text into the selected object.
4) Format the text using the various tools on the Text Formatting toolbar, the panels in the Properties deck on the Sidebar, or the options in **Format** on the Menu bar. For more information on text formatting, see “Formatting text” on page 217.
5) If the text goes outside the object borders, access text formatting options for a Draw object as follows:
   a) Double click on the text inside the selected object to select the text.
   b) Right click on the selected text and select **Text Attributes** to open the Text dialog for Drawing Object Text (Figure 212 on page 214).
   c) Format the text using the available options. For more information, see "Text options for objects" on page 217.
6) If required, click on **Text Animation** to open the **Text Animation** page and access animation options for text. For more information on using text animation in a drawing, see “Text animation” on page 228.
7) If required, click on **Text Columns** to open the **Text Columns** page and access options for creating columns inside an object. For more information on using text columns in a drawing, see “Text columns” on page 225.

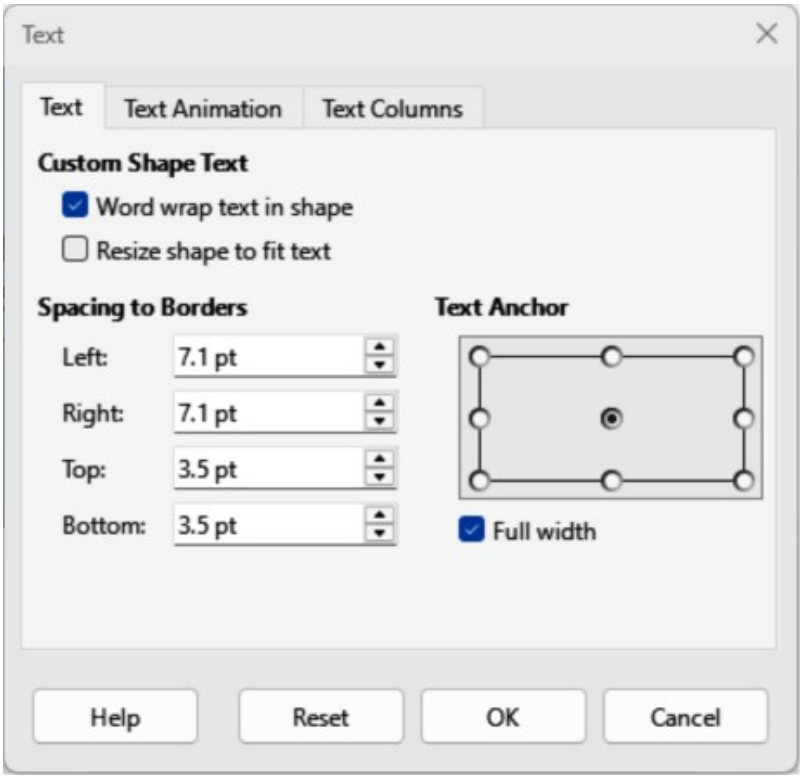

Figure 214: Text dialog — Text page — Custom Shape

Note

The Text dialog for Custom Shape Text (Figure 214) used for adding text to objects is similar to the Text dialog (Figure 212 on page 214) used for formatting text boxes.

Text options for objects

Custom Shape Text

Word wrap text in shape

Wraps text to fit inside an object. For example, if the width of an object is changed, then the height of the object either increases or decreases allowing for an increase or decrease in the number of text lines.

Resize shape to fit text

Resizes an object to fit the text that is being entered into the object. For example, if the object already contains one multi-line paragraph of text and this option is selected, then object width expands and height decreases until the text is a single line of text.

Spacing to Borders

Specify the amount of space to leave between the text and borders of an object.

Text Anchor

Anchors the text to one of nine positions within a text box. The left and right anchor positions can only be selected when Full width is not selected. A text anchor only determines the position of text within a text box and does not change the paragraph alignment of text inside an object.

Full width

When selected, object width expands to fit the longest paragraph of text inside an object as a single line. When selected, only the top, middle or bottom center positions in Text Anchor can be used to anchor text inside a text box.

Formatting text

Text formatting creates a more professional drawing without distracting elements. Text formatting tools are available on the Text Formatting toolbar and drop-down menus in **Format** on the Menu bar. For more information on text formatting, see the *Writer Guide*.

When several text boxes and/or objects in a drawing require the same text formatting, it is recommended to use drawing styles. For more information on using and creating styles, see Chapter 4, Changing Object Attributes.

Note

Using **Edit > Paste** on the Menu bar, or the keyboard shortcut *Ctrl+V* (macOS *⌘+V*) pastes copied text directly into a drawing creating an OLE object and **DOES NOT** create a Draw object. When creating text boxes, or adding text to Draw objects, it is recommended to paste text into Draw objects as unformatted text.

Pasting text

Pasting copied text from another object, drawing, or document into a text box or object, the copied text retains formatting from the source drawing or document. This copied text may not match text formatting already in use. It is recommended to paste text into a drawing as unformatted text, then apply formatting to match the text formatting already used in the target drawing.

1) Copy and paste text as unformatted text into a drawing, or draw object using one of the following methods:
   - Go to **Edit > Paste Special > Paste Unformatted Text** on the Menu bar.
   - Go to **Edit > Paste Special > Paste Special** on the Menu bar to open the Paste Special dialog. Select **Unformatted text** and click **OK** to close the dialog.
   - Use the keyboard shortcut *Ctrl*+*Shift*+*V* (macOS ⌘+*Shift*+*V*) and the Paste Special dialog opens. Select **Unformatted text** and click **OK** to close the dialog.
   - Click on the triangle ▼ on the right of **Paste** on the Standard toolbar and select **Unformatted text** from the context menu.
2) Format the pasted text to the drawing requirements, or apply a drawing style. Unformatted text is pasted into a text box at the cursor position, or inside a selected object and formatted to the default drawing style.

Quick font resizing

After selecting text, increasing or decreasing font size can be quickly carried out using the tools **Increase Font Size** (*Ctrl*+*]*) (macOS ⌘+*]*) and **Decrease Font Size** (*Ctrl*+*[*) (macOS ⌘+*[*) on the Text Formatting toolbar.

Note

When using quick font resizing, any change in font size depends on the standard font sizes available for the font in use in the target drawing object.

Selecting text

Text must be selected before it can be formatted using one of the following methods. Any formatting changes apply only to the selected text.

- To format all the text in a text box or object, click once on the border of the text box or object to display the selection handles. Formatting changes then apply to all text in the text box or object.
- To format only part of the text, select text using one of the following methods:
  - Click in the text and drag the cursor over the text to highlight the text.
  - Double-click on text to select a complete word, or triple-click to select a whole paragraph.
  - Click in the text, then press and hold the *Shift* key, then use the arrow keys to select text.

Paragraph formatting

Direct formatting

Direct or manual paragraph formatting is applied directly to selected paragraphs. This direct or manual formatting overrides any formatting that has been applied using paragraph formatting and drawing styles.

1) Select the text (see “Selecting text” on page 218) and format using one of the following methods:
   - Various formatting tools on the Text Formatting toolbar.

– Go to **Format** on the Menu bar and select a formatting option from the drop-down menu. Selecting a formatting option opens either a context menu, or dialog providing further formatting options to apply to the selected text.

– Use the options available in the Paragraph and Character dialogs.

– Use the options available in the **Paragraph** and **Character** panels in the Properties deck on the Sidebar.

2) Click outside the text box, or object to deselect the text edit mode.

Paragraph dialog

1) Click anywhere in the paragraph being formatted.

2) Use one of the following methods to open the Paragraph dialog (Figure 215).

– Right-click on the selected text and select **Paragraph** from the context menu.

– Go to **Format > Paragraph** on the Menu bar.

3) Use the various options on the tabbed pages of the Paragraph dialog to format the text.

4) Click **OK** to save the changes and close the Paragraph dialog.

5) Click outside the text box or object to deselect the text.

Note

For information on the various text formatting options available in the pages of the Paragraph dialog, refer to the *Writer Guide*.

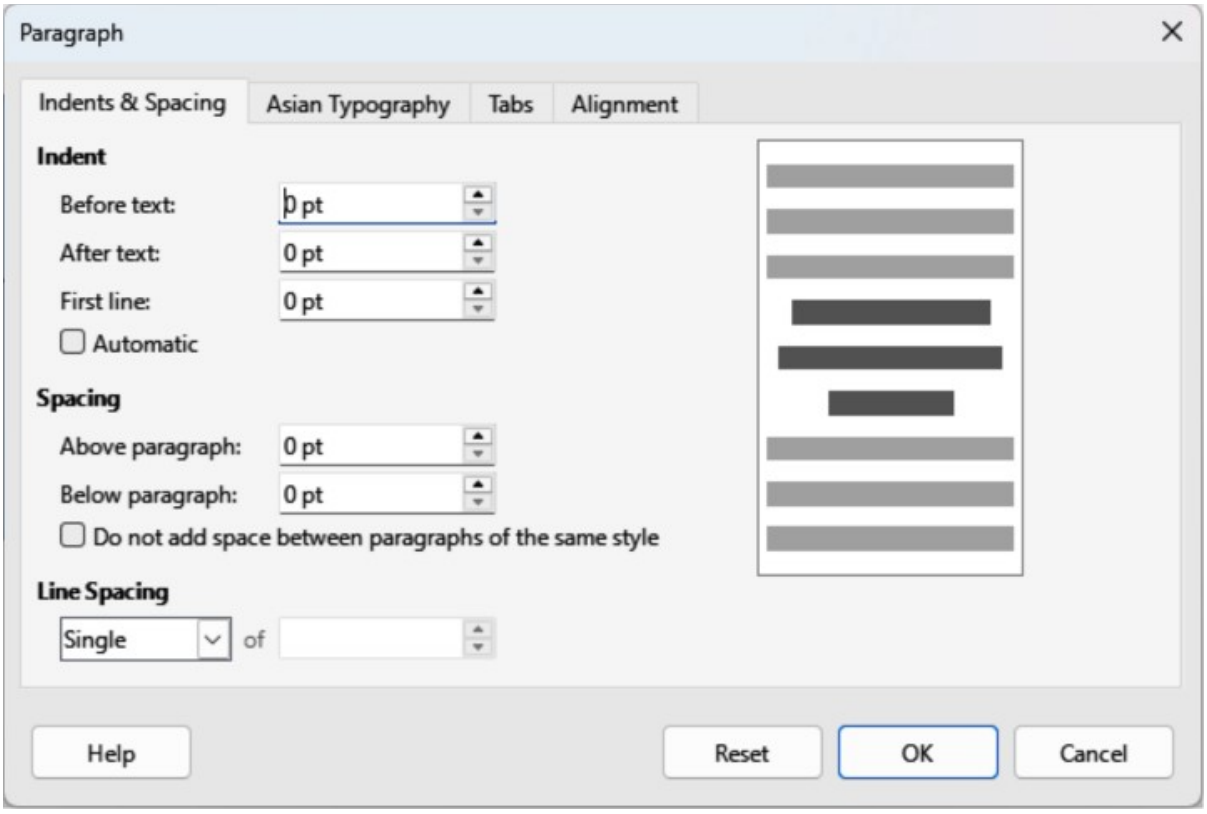

Figure 215: Paragraph dialog — Indents & Spacing page

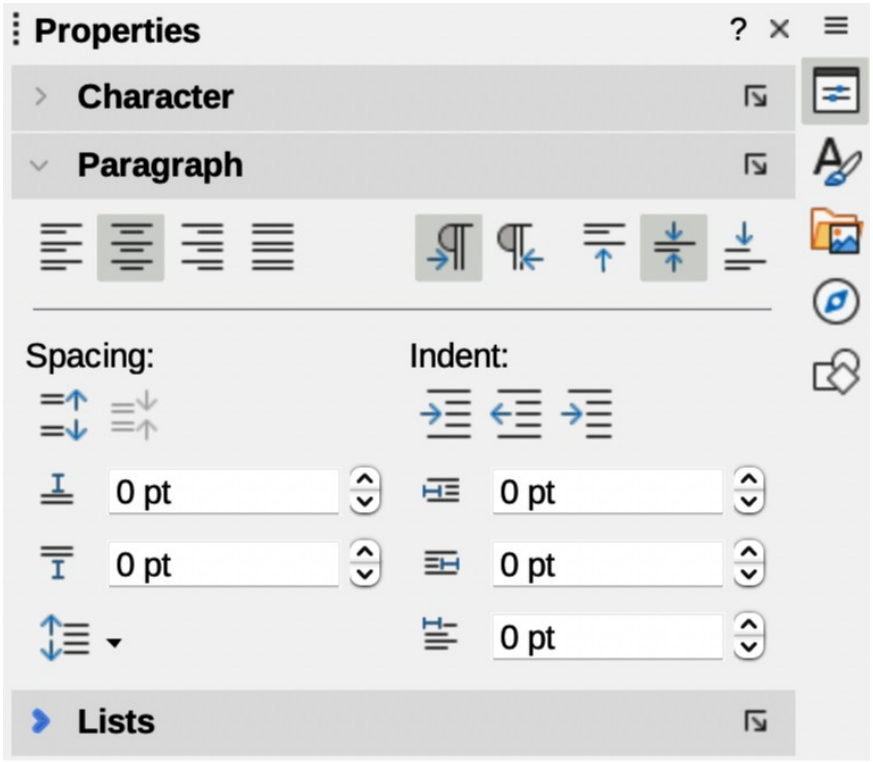

Figure 216: Paragraph panel in Properties deck on Sidebar

Paragraph panel in Sidebar

Use the **Paragraph** panel (Figure 216) in the Properties deck on the Sidebar to format paragraphs of text. Formatting options are limited, but similar in use to the formatting options available in the Paragraph dialog. Any formatting applied to a paragraph using the **Paragraph** panel is immediate.

1) Click anywhere in the paragraph being formatted.
2) On the Sidebar, click on **Properties** to open the Properties deck.
3) If necessary, click on the expansion symbol on the left of the **Paragraph** title bar to open the **Paragraph** panel.
4) Format the text using the various options available in the **Paragraph** panel.
5) If necessary, click on **More Options** on the right of the title bar to open the Paragraph dialog to format text.

Note

For information on the various formatting options available for text in the **Paragraph** panel on the Sidebar, refer to the *Writer Guide*.

Character formatting

Direct formatting

Direct or manual character formatting is applied directly to selected characters. This direct or manual formatting overrides any formatting that has been applied using character or paragraph formatting and drawing styles.

1) Select the characters for formatting, see “Selecting text” on page 218 for more information.

2) Format characters using one of the following methods.
   - The various formatting tools on the Text Formatting toolbar. Formatting applied to characters is immediate.
   - Go to **Format** on the Menu bar. Selecting a formatting option opens either a context menu or dialog where further formatting options are selected.
   - Use the options available in the Character dialog. Clicking **OK** on the dialog applies the formatting changes.
   - Use the options available in the **Character** panel in the Properties deck on the Sidebar. Formatting applied to characters is immediate.
3) Click outside the text box or object to deselect the text.

Character dialog

1) Select the characters for formatting and open the Character dialog (Figure 217) using one of the following methods:
   - Right-click on the characters and select **Character** from the context menu.
   - Go to **Format > Character** on the Menu bar.

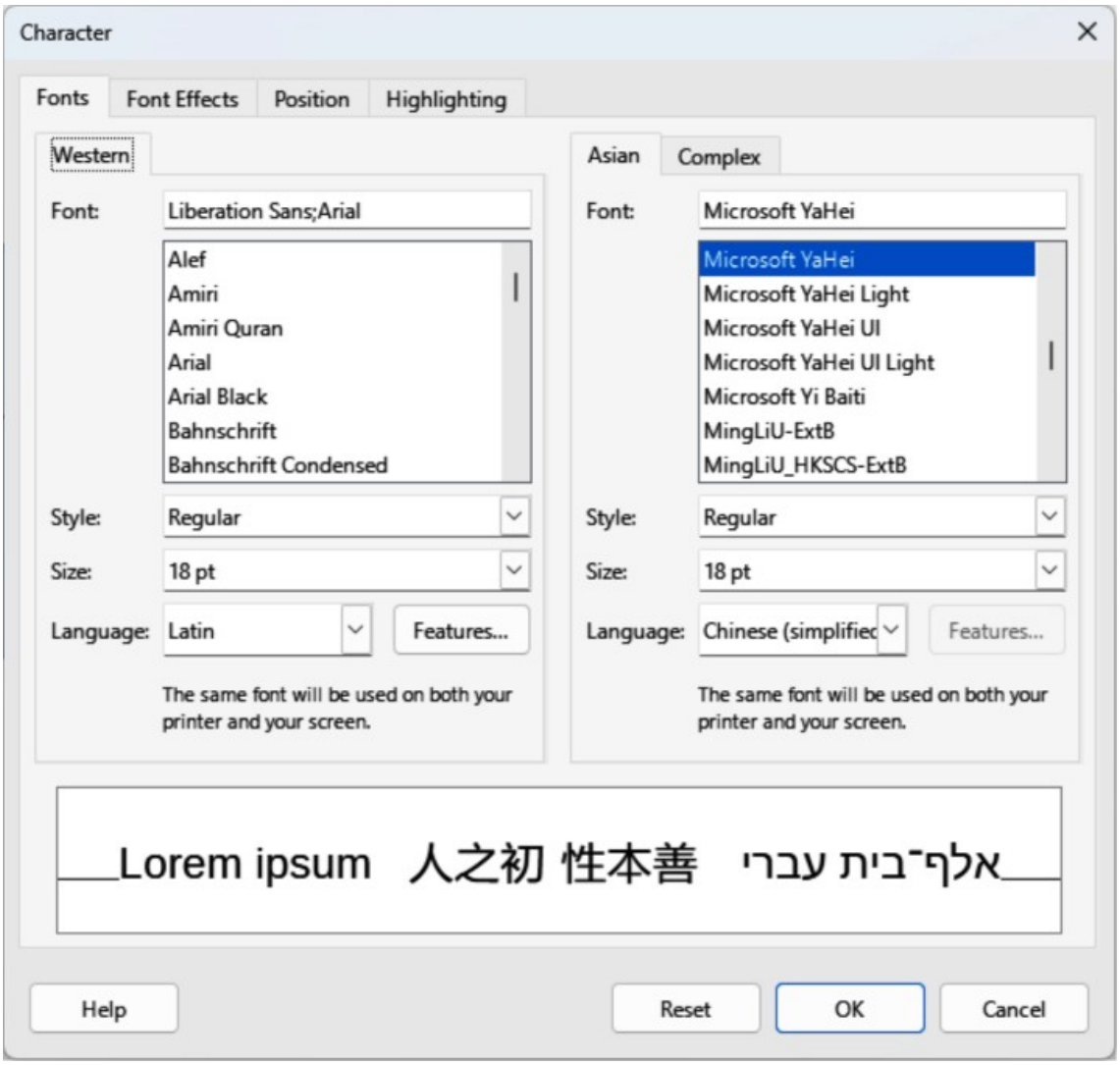

Figure 217: Character dialog — Fonts page

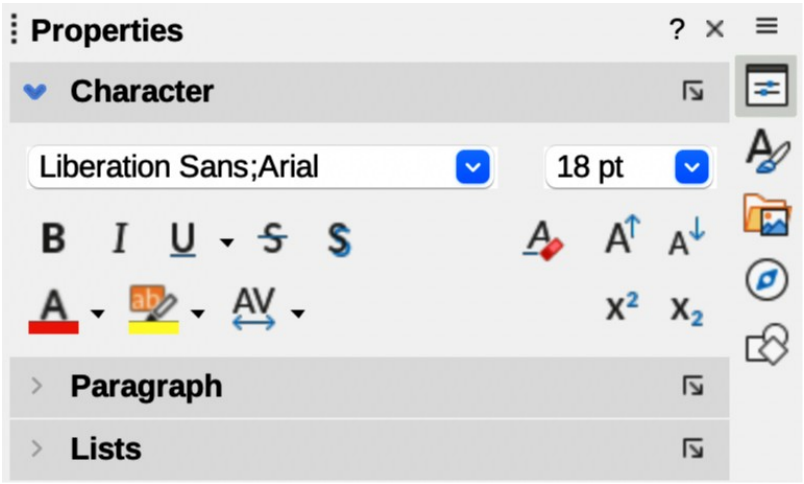

Figure 218: Character panel in Properties deck on Sidebar

2) Use the options on the tabbed pages of the Character dialog to format the selected characters.
3) Click **OK** to apply the formatting changes and close the dialog.
4) Click outside the text box or object to deselect the text.

Note

For information on the various formatting options available for characters in the pages of the Character dialog, refer to the *Writer Guide*.

Sidebar Character panel

Use the **Character** panel (Figure 218) in the Properties deck on the Sidebar to format characters. Formatting options are limited, but similar in use to the formatting options available in the Character dialog. Any formatting applied to characters using the **Character** panel is immediate. Character formatting options are also available on the Text Formatting toolbar.

1) Select a text box or object so that the selection handles on the border are displayed.
2) On the Sidebar, click on **Properties** to open the Properties deck.
3) Click on the expansion symbol on the left of the **Character** title bar to open the **Character** panel.
4) Format the text using the tools in the **Character** panel.
5) If necessary, click on **More Options** on the right of the title bar to open the Character dialog to format text.

Note

For information on the various formatting options available for characters in the **Character** panel on the Sidebar, refer to the *Writer Guide*.

Unordered or ordered lists

Unordered (bulleted) and ordered (numbered) lists can be created in text boxes and objects. When creating lists in objects, Draw objects are not dynamic and do not automatically expand as a list is created. Creating unordered or ordered lists in Draw is similar to Writer. For more information on unordered or ordered lists, see the *Writer Guide*.

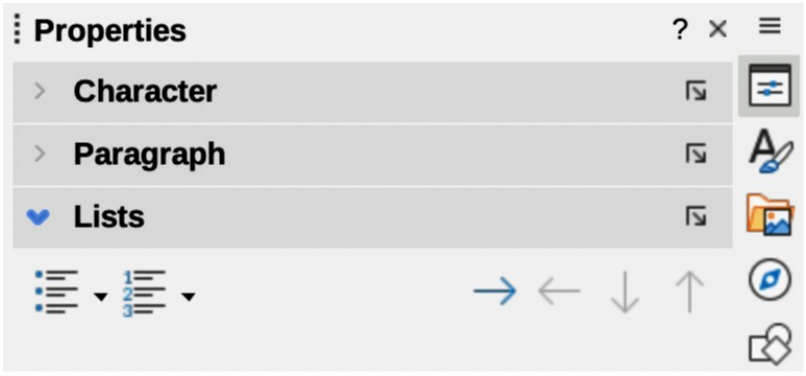

Figure 219: Lists panel in Properties deck on Sidebar

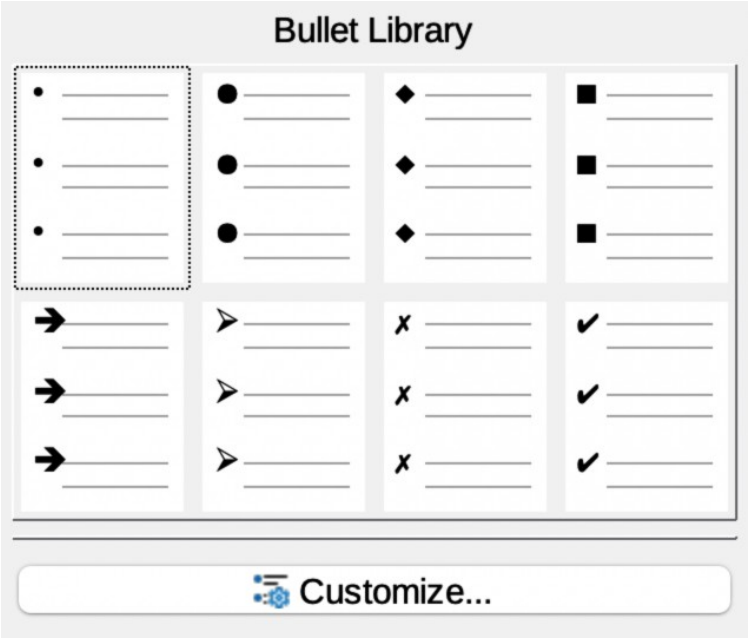

Figure 220: Bullet Library dialog for bullet lists

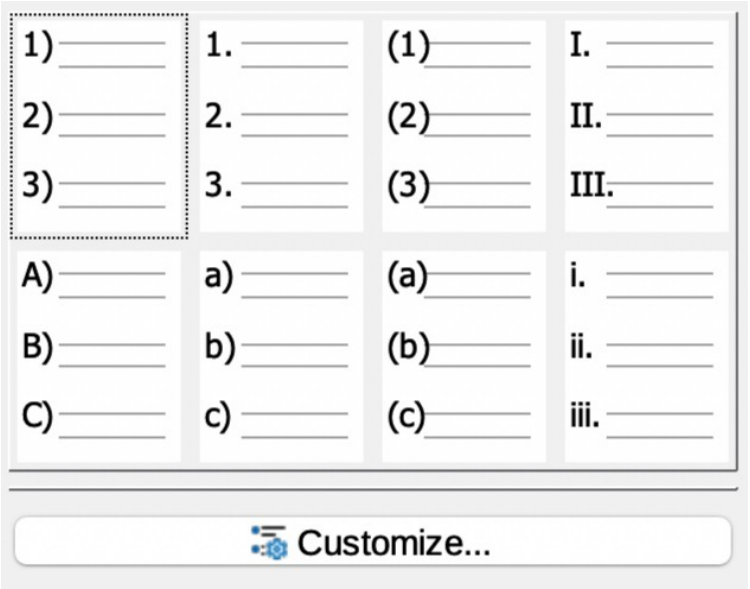

Figure 221: More Numbers dialog for numbered lists

Creating lists

Unordered or ordered lists are created in text boxes, or Draw objects as follows:

1) Select all the required text for a list.
2) Create a list using one of the following methods and default settings for lists:
   – Click on **Toggle Unordered List**, or **Toggle Ordered List** on the Text Formatting toolbar.
   – Click on **Toggle Unordered List**, or **Toggle Ordered List** in the **Lists** panel in the Properties deck on the Sidebar (Figure 219).
   – Go to **Format > Lists > Unordered List**, or **Ordered List** on the Menu bar.
3) To change the format of the list, click on the triangle ▼ on the right of the list icons and select a list style from the options available in the Bullets Library dialog (Figures 220), or More Numbers dialog (Figure 221).

Adjusting list item level and position

The level for each item in an unordered or ordered list is demoted or promoted within a list, or moved up or down in list order as follows:

1) Click on a list item being demoted, promoted, or moved up or down.
2) Demote a list item down one level at a time using one of the following methods:
   – Use the *Tab* key.
   – Go to **Format > Lists > Demote** on the Menu bar.
   – Use **Demote** in the **Lists** panel in the Properties deck on the Sidebar.
3) Promote a list item up one level at a time using one of the following methods:
   – Use the key combination *Shift*+*Tab*.
   – Go to **Format > Lists > Promote** on the Menu bar.
   – Use **Promote** in the **Lists** panel in the Properties deck on the Sidebar.
4) Change the position of a list item in the list order using one of the following methods:
   – Go to **Format > Lists > Move Up**, or **Move Down** on the Menu bar.
   – Use **Move Up**, or **Move Down** in the **Lists** panel in the Properties deck on the Sidebar.

Bullets and Numbering dialog

Use the Bullets and Numbering dialog (Figure 222) for more control over list formatting. Select text in a text box or object and open the dialog using one of the following methods:

- Go to **Format > Bullets and Numbering** on the Menu bar.
- Right-click on the selected text and select **Bullets and Numbering** from the context menu.
- Click on **More Options** on the right side of **Lists** panel title bar in the Properties deck on the Sidebar.
- Click on **More Bullets** or **More Numbering** after clicking on the triangle ▼ on the right of **Toggle Unordered List**, or **Toggle Ordered List** on the Text Formatting toolbar, or in the **Lists** panel in the Properties deck on the Sidebar.

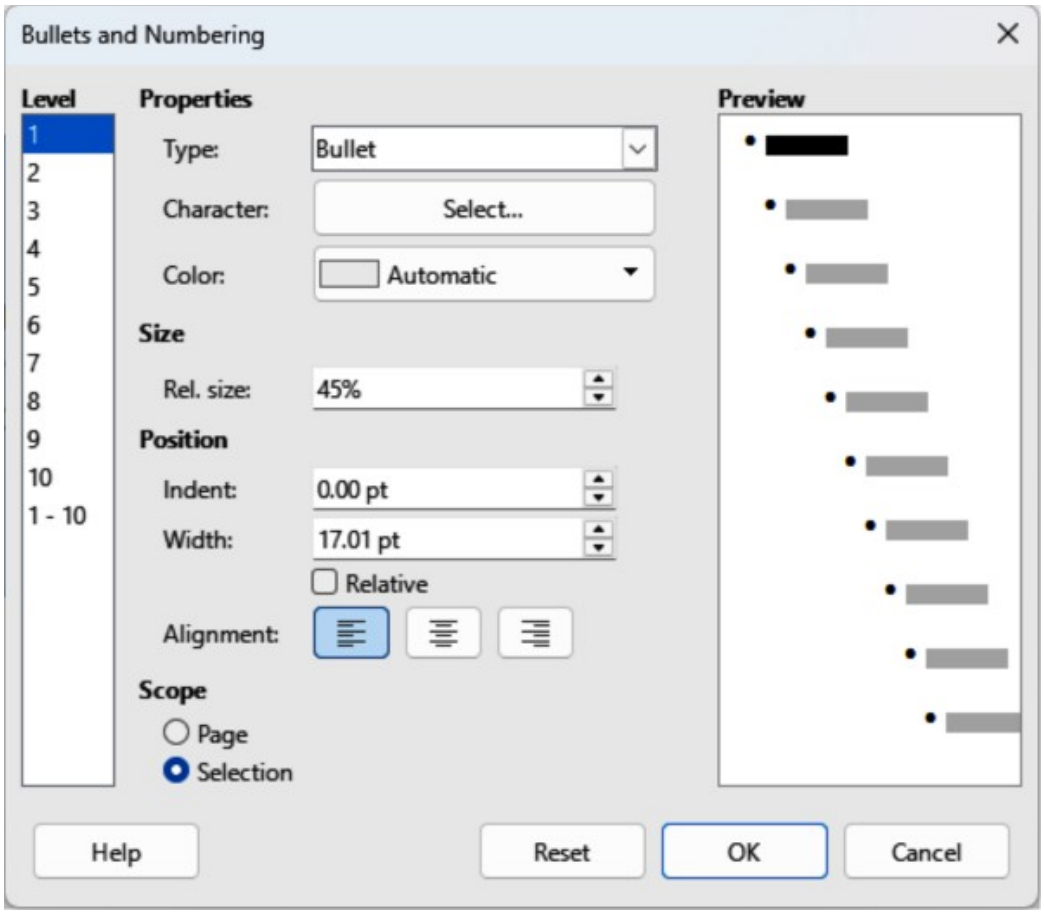

Figure 222: Bullets and Numbering dialog

Note

For more information on the options available in the Bullets and Numbering dialog for unordered or ordered lists, see the *Writer Guide*.

Text columns

Text in a drawing can be formatted into columns inside text boxes and objects. However, columns cannot be used on separate parts of text inside a text box or object. The whole of the text box, or object has to be used for columns. An example of text columns inside a Draw object is shown in Figure 223.

The type of columns used in Draw are continuous flow columns. This means that when text reaches the bottom of a column, text automatically flows into the next column as more text is added.

Text boxes

1) Click the border of a text box to select it so that the selection handles are displayed indicating that the text box is in edit mode.

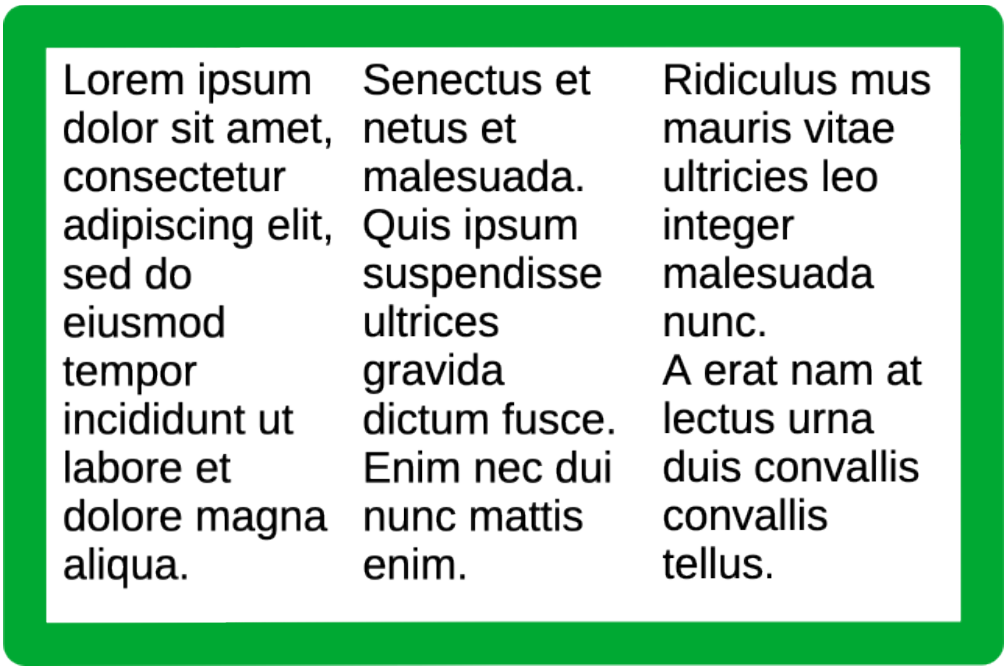

Figure 223: Example of text columns in a Draw object

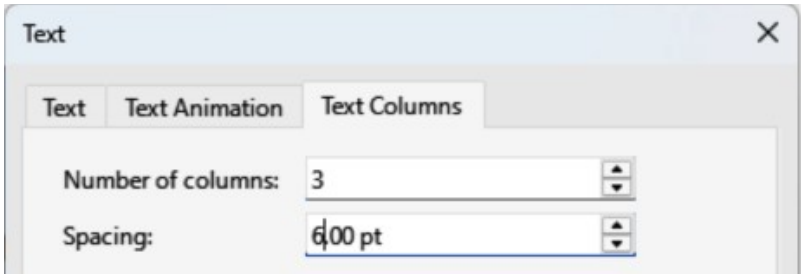

Figure 224: Text dialog — Text Columns pagex

2) Open the options for text columns using one of the following methods:
   - Right-click in the text box and select Text Attributes from the context menu to open the Text dialog, then click on the **Text Columns** tab to open the **Text Columns** page (Figure 224),
   - Click on **Columns** in Properties on the Sidebar to open the **Columns** panel (Figure 225).
3) Set the number of columns required in the *Number of columns* box and the required spacing between the columns in the *Spacing* box.
4) Save the changes and deselect the text box using one of the following methods:
   - For the Text dialog, click **OK** to save the changes and close the dialog, then click outside the text box to deselect it.
   - For the **Columns** panel in the Properties deck on the Sidebar, click outside the text box to deselect it and save the changes.

Note

Any text inside a text box, or drawing object automatically flows into column format when the changes are saved.

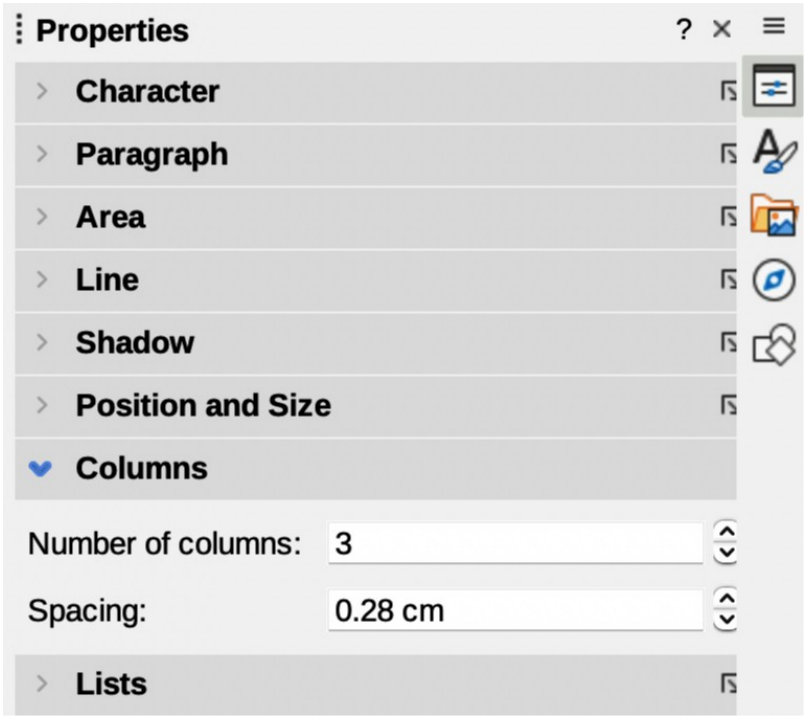

Figure 225: Columns panel in Properties deck on Sidebar

Drawing objects

1) Click on an object to select it so that the selection handles are displayed indicating that the object is in edit mode.
2) Double-click on the selected object to switch on text edit mode.
3) Open the options for text columns using one of the following methods:
   – Right-click in the text box and select Text Attributes from the context menu to open the Text dialog, then click on the **Text Columns** tab to open the **Text Columns** page (Figure 224),
   – Click on **Columns** in Properties on the Sidebar to open the **Columns** panel (Figure 225).
4) Set the number of columns required in the *Number of columns* box and the required spacing between the columns in the *Spacing* box.
5) Save the changes and deselect the object using one of the following methods:
   – For the Text dialog, click **OK** to save the changes and close the dialog, then click outside the object to deselect it.
   – For the **Columns** panel in the Properties deck on the Sidebar, click outside the object to deselect it and save the changes.
6) Double-click again on the object to switch on text edit mode.
7) Type or use copy and paste to enter the required text. Any text entered appears in column format.
8) If necessary, format the text to the drawing requirements.
9) Click outside the object to deselect it and save the changes.

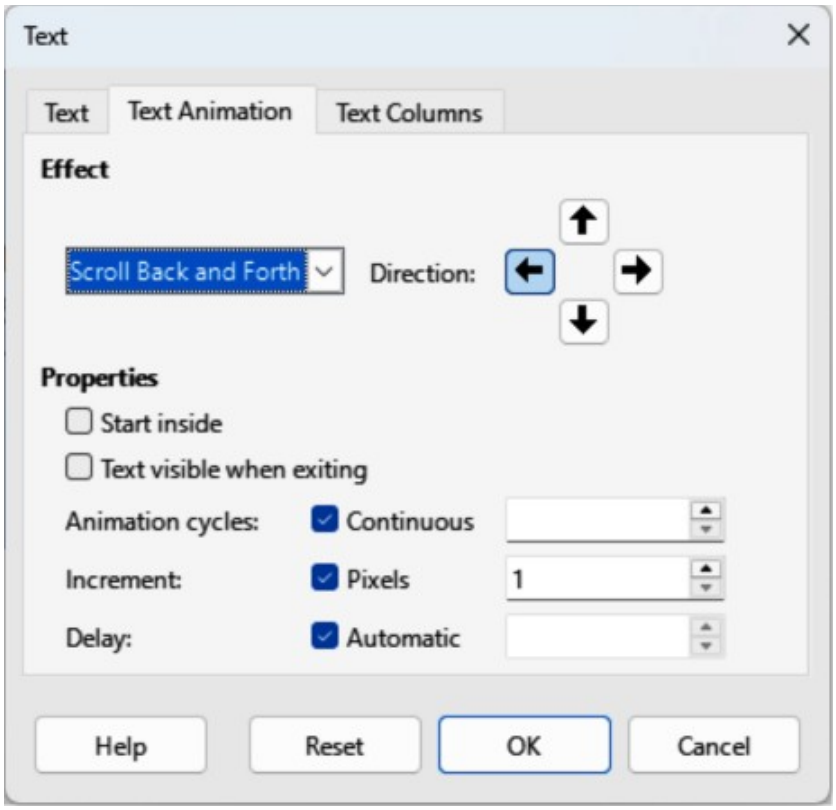

Figure 226: Text dialog — Text Animation page

Text animation

Note

Text animation is not recommended in a drawing unless the drawing is going to be displayed as part of a presentation. See the *Impress Guide* for more information on text animation.

Creating text animation

1) Right-click on text in a text box, or drawing object and select **Text Attributes** from the context menu to open the Text dialog.
2) Click on **Text Animation** to open the **Text Animation** page in the Text dialog (Figure 226).
3) In **Effect**, select how the text appears during the text animation.
4) In *Direction*, select which direction the text appears from during animation.
5) In **Properties**, select *Start inside* for the text to be visible and inside the drawing object when applying the animation effect.
6) In **Properties**, select *Text visible when exiting* for the text to remain visible after applying the animation effect.
7) In *Animation cycles*, select either *Continuous*, or enter the number of animation cycles for the animated text.
8) In *Increment*, select the increment value in *Pixels* for scrolling the text.

9) In *Delay*, specify *Automatic*, or enter the time delay to wait before repeating the animation effect.

10) Click **OK** to save the changes and close the Text dialog.

Text animation options

Effect

Select the animation effect from the drop-down list to apply to the text in the selected drawing object. To remove an animation effect, select *No Effect*.

Direction

Select a scrolling direction for the animated text.

Properties

Start inside

Text is visible and inside the drawing object when applying the animation effect.

Text visible when exiting

Text remains visible after applying the animation effect.

Animation cycles

Set the looping options for the animation effect.

Continuous

Plays the animation effect continuously. To specify the number of times to play the animation effect, deselect this check box, and enter the number of cycles in the *Continuous* box.

Increment

Specifies the increment value in the *Pixels* box for scrolling the text.

Delay

Specifies the amount of time before repeating the animation effect.

Automatic

LibreOffice automatically determines the amount of time before repeating the animation effect. To manually assign a delay period, unmark this check box, and then enter a time value in the *Automatic* box.

Text callouts

A text callout is a short line of text connected by a line to highlight, or point out a feature in an illustration or drawing. Two types of text callouts (Figure 227) are available — **Callouts** for horizontal text and **Vertical Callouts** for vertical text. Text callouts in Draw are a legacy from the first versions of LibreOffice and the tools are only available on the Text toolbar (Figure 203 on page 207).

Note

Custom shape callouts can also be used by selecting **Callout Shapes** on the Drawing toolbar, or the **Callouts** panel in the Shapes deck on the Sidebar. These custom shape callouts have the same purpose as text callouts, but have different options available.

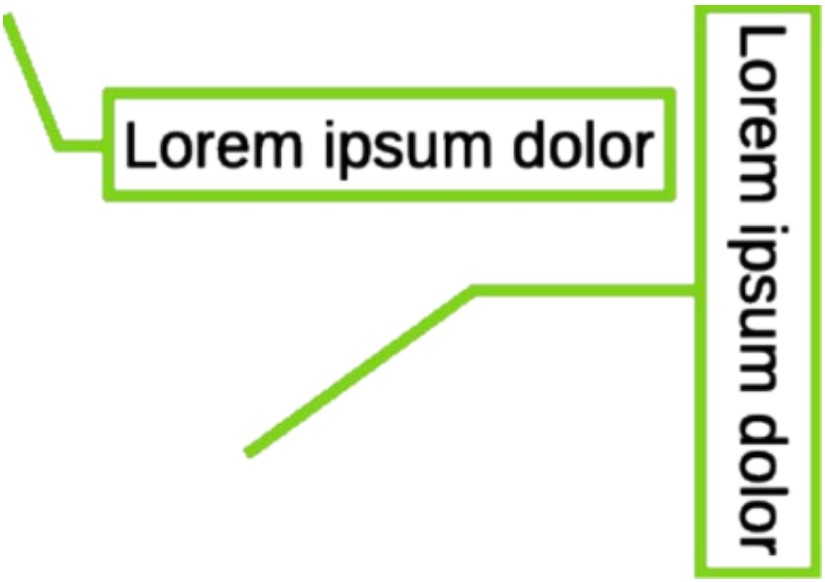

Figure 227: Examples of horizontal and vertical text callouts

Creating text callouts

1) Click on **Callouts** for horizontal text, or **Vertical Callouts** for vertical text on the Text toolbar (Figure 203 on page 207).
2) Click in the drawing and drag the cursor to create the callout.
3) Double click in the callout box to enter text mode.
4) Type the required text, then click in a blank space in the drawing. The callout box adjusts its size horizontally and/or vertically to fit the text within the callout box.
5) Select the callout and click on the selection handle at the end of the connector line, then drag the end of the connector line to the required position.
6) With the callout still selected, click on the callout box and drag it to the required position.
7) If required, with the callout still selected, click on a selection handle on the callout box to change the callout box width and height.
8) Click in a blank space in the drawing to deselect the text callout and save the changes.

Note

The **Callout** page in the Position and Size dialog is only available when a text callout has been selected. It is not available for **Callout Shapes** that are available on the Drawing toolbar, or the **Callouts** panel in the Shapes deck on the Sidebar.

Editing text callouts

1) Double click in the callout box to enter text mode to edit and format the text. See “Formatting text” on page 217 for more information on text formatting.
2) Click in a blank space on the drawing to save the changes to the text.
3) Only select the text callout so that the selection handles are displayed.
4) Make sure the text used in the text callout is NOT selected.

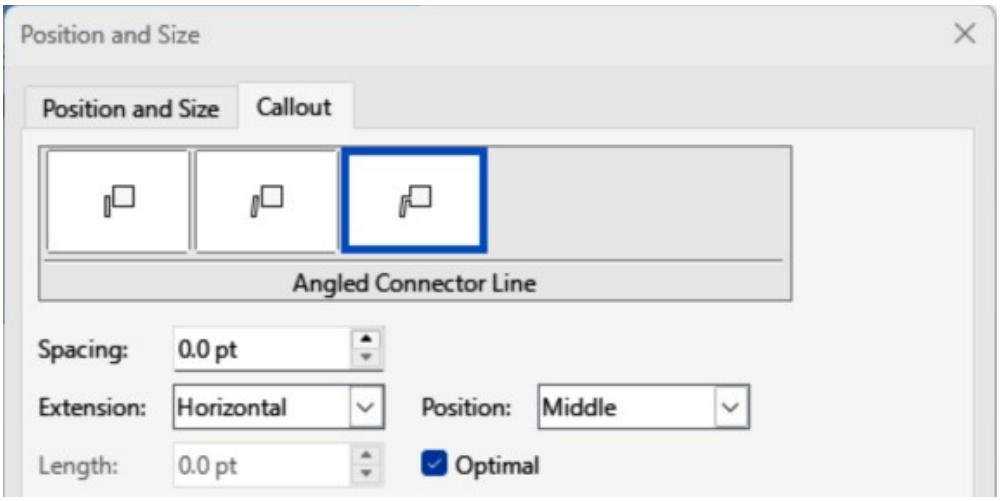

Figure 228: Position and Size dialog — Callout page

5) Right click on the selected text callout and select an option from the context menu to change the attributes for position, size, line, and area of the text callout. For more information, see Chapter 3, Working with Objects, and Chapter 4, Changing Object Attributes.
6) Click on the selection handle at the end of the connector line and drag it to change the position of the line end or the length of the connector line.
7) Select the text callout and open the Position and Size dialog (Figure 228) using one of the following methods:
   – Right-click on the selected callout and select **Position and Size** from the context menu.
   – Go to **Format > Position and Size** on the Menu bar.
   – Use the keyboard shortcut *F4*.
8) Click **Callout** to open the formatting options available for text callouts.
9) Select the style of text callout from **Straight Line**, **Angled Line**, or **Angled Connector Line**.
10) In **Spacing**, enter the amount of space required between the end of the callout line and the callout box.
11) In **Extension**, select from the available options how the callout line from extends the callout box.
12) If *From top*, or *From left* has been selected from the **Extension** drop-down list, enter a distance value in the **By:** box to create a space between the start point of the connector line and the callout box.
13) If *Horizontal*, or *Vertical* has been selected from the **Extension** drop-down list, enter a position setting from the **Position** drop-down list to set the position of where the connector line is attached to the text callout box.
14) In **Length**, enter the length of the callout line segment that extends from the callout box to the angle point of the connector line.
15) Select **Optimal** to display the angle point in a connector line at an optimal distance from the callout box.
16) Click in a blank space in the drawing to deselect the text callout and save the changes.

Text callout options

Callout Styles

Select the required callout style from the options available.

Spacing

Enter the amount of space required between the end of the callout line and the callout box.

Extension

Select where and how the callout line extends from the callout box.

Length

Enter the length of the callout line segment that extends from the callout box to the inflection point of the line.

Optimal

Select this option to display a single line in the optimum position.

Note

The **Length** option is only available if **Angled connector line** is selected as the callout style and **Optimal** is not selected.

Tables in Draw

Tables provide information easily and quickly when used in a drawing. Tables can be added directly to a drawing eliminating the requirement to embed a Calc spreadsheet, or a Writer text table. However, it is recommended to embed a spreadsheet into a drawing, especially when greater functionality is required in the table. The tables provided by Draw do have a limited functionality.

Inserting tables

Tables are placed at the center of a drawing and cannot be placed into objects or shapes. Also, unlike text boxes and other objects, tables cannot be rotated, but can be repositioned.

Notes

When inserting tables into a drawing, the table is created using the default style with settings already applied. Currently these defaults are hard coded in LibreOffice. The table can be formatted to the drawing requirements after insertion.

If the Table toolbar is not visible, go to **View > Toolbars > Table** on the Menu bar. The Table toolbar is normally docked at the bottom of a Draw window.

Table dialog

1) Go to **Insert > Table** on the Menu bar to open the Insert Table dialog (Figure 229).
2) Enter the number of rows and columns required.
3) Click **OK** to insert the table in the center of a drawing and close the dialog.
4) Move the table into position by clicking on the border and dragging it to its new position.

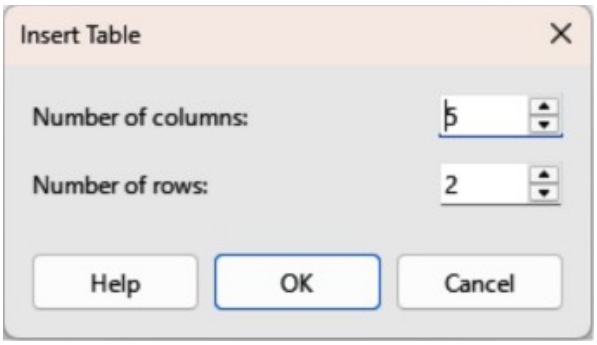

Figure 229: Insert Table dialog

Figure 230: Table toolbar

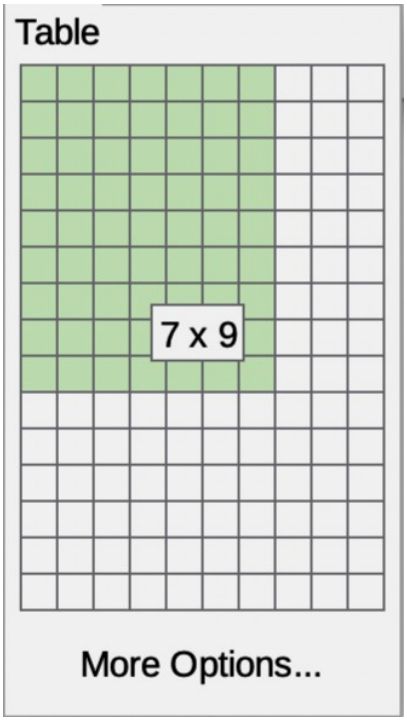

Figure 231: Table grid

Table grid

1) Click on **Table** on the Table toolbar (Figure 230) to open the Table grid (Figure 231).
2) Click and drag the cursor until the required number of columns and rows are selected,
3) Click again to insert the table into the center of a drawing and close the Table grid.
4) If necessary, click on **More Options** to open the Insert Table dialog to select the number of rows and columns required.
5) Move the table into position by clicking on the border and dragging it to its new position.

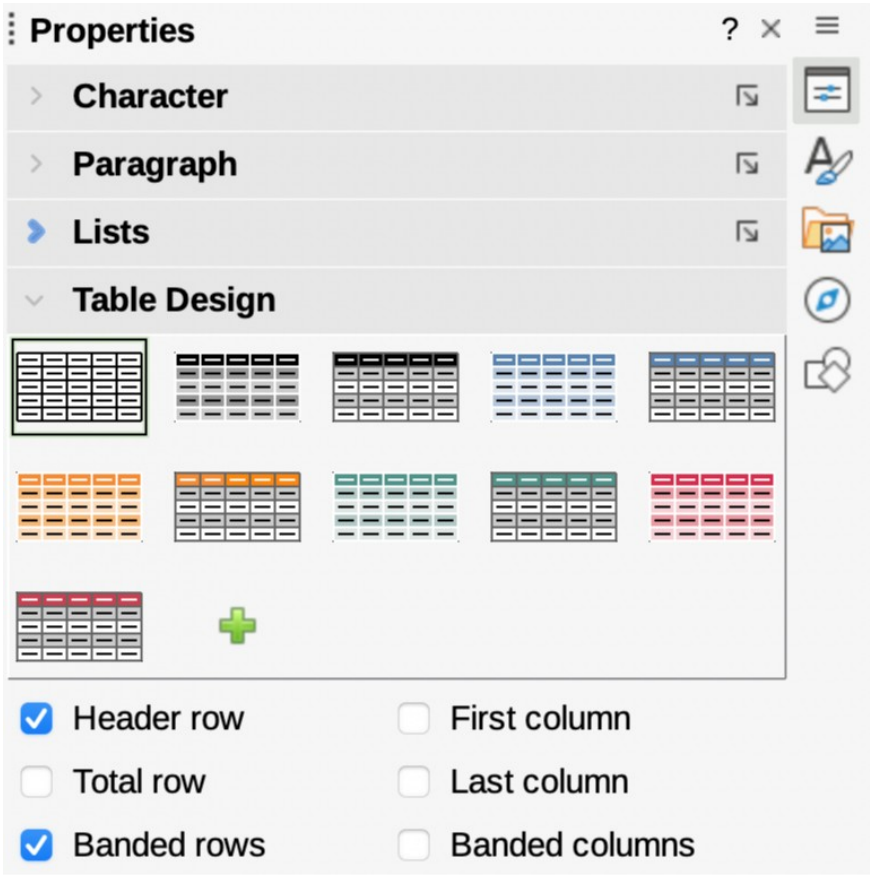

Figure 232: Table Design panel in Properties deck on Sidebar

Table Design panel

Several predefined table designs are provided in the **Table Design** panel in the Properties deck on the Sidebar (Figure 232). The **Table Design** panel is only available when a table is selected.

Inserting table designs

1) Insert a table into a drawing or select a table in a drawing.
2) Click on **Table Design** in the Properties deck on the Sidebar to open the **Table Design** panel.
3) Select a design for the table from the available design options.
4) Format the rows and columns using the available options in the **Table Design** panel.
5) Alternatively, right click on the selected table design and select the format options for the rows and columns from the context menu.

Creating table designs

1) Insert a table into a drawing, then select the new table.
2) Click on **Table Design** in the Properties deck on the Sidebar to open the **Table Design** panel, or click on Table Design on the Table toolbar.
3) Click on the plus sign in **Table Design** panel to create a new design.
4) Make sure the new design is selected, then format the rows and columns from the available options listed below the **Table Design** panel.

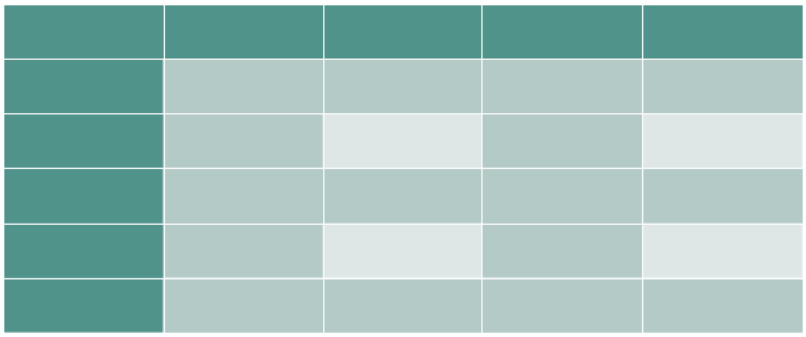

Figure 233: Example table with banded rows and columns

5) Alternatively, right click on the new table design and select the format options for the rows and columns from the context menu.

Table design options

Header row

Selected by default. The first row is normally a header row and is displayed with a different background from the rest of the table.

Total row

When selected, changes the background of the last row to make it stand out from other rows.

Banded rows

Selected by default. Alternate rows have different backgrounds making it easier to read data entered into the rows, as shown by the example in Figure 233.

First column

When selected, highlights the first column of the table using a darker background.

Last column

When selected, highlights the last column of the table using a darker background.

Banded columns

When selected, alternate columns are highlighted with dark and light colors.

Table formatting

Format a selected table using the tools and options available on the Table toolbar, by going to **Format > Table** on the Menu bar, or using the options available in the Table Properties dialog.

Table toolbar

The Table toolbar (Figure 230 on page 233) automatically opens when a table is selected providing tools for creating and formatting a table. The default docked position for the toolbar is at the bottom of the LibreOffice Draw Workspace.

Table

Inserts a new table in a drawing using the Insert Table dialog or the Table grid. See “Inserting tables” on page 232 for more information on inserting tables.

Border Style

Changes the line style of the borders of selected cells. Click on the triangle ▼ next to **Border Style** to open a drop-down list and select from a range of predefined styles.

Border Color

Changes the color of the borders of selected cells. Click on the triangle▼ next to **Border Color** to access the available LibreOffice color palettes. Select a color from a range of predefined palettes or create a custom color.

Borders

Selects a predefined border configuration for the selected table, or cells. Click on the triangle▼ next to **Borders** to open a drop-down list to select a border configuration.

Area Style/Filling

Select the cells to be filled, then select the type of fill from the drop-down list: *None*, *Color*, *Gradient, Hatching, Bitmap, Pattern, Use Slide Background*.

Fill Color

Select a fill option from the drop-down menu. The fill options change to show the fillings available for each **Area Style/Filling** type.

Merge Cells

Merges the selected cells into one cell. Note that the contents of the merged cells are also merged. Alternatively, right-click on selected cells and select **Merge Cells** from the context menu.

Split Cells

Splits a selected cell into multiple cells either horizontally or vertically. Make sure the cursor is positioned on a cell, then click on **Split Cells** to open the Split Cells dialog (Figure 234).

In *Split cells into*, select the number of cells required when splitting a cell and whether to split the cell *Horizontally* or *Vertically*. If necessary, when splitting horizontally, select Into equal proportions to create cells of equal size. The contents of the split cell are kept in the original cell (left or top cell).

Optimize

Evenly distributes the selected rows and columns in a table either horizontally or vertically. Clicking on **Optimize** opens a pop-up toolbar which contains the following tools:

Minimal Row Height

Determines the minimal row height for selected rows. Minimal row height depends on the font size of the smallest character in the row.

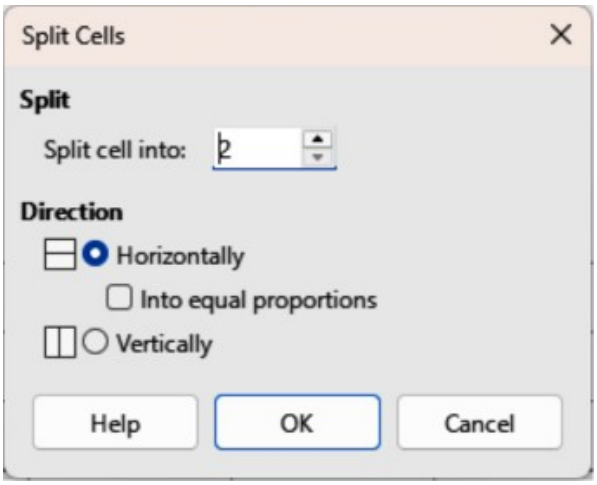

Figure 234: Split Cells dialog

Minimal Column Width

Defines the minimal column width for selected columns. Minimal column width depends on the shortest entry within a column.

Optimal Row Height

Determines the optimal row height for selected rows. Optimal row height depends on the font size of the largest character in the row.

Optimal Column Width

Defines the optimal column width for selected columns. Optimal column width depends on the longest entry within a column.

Distribute Rows Equally

Adjusts the height of the selected rows to match the height of the tallest row in the selection.

Distribute Columns Evenly

Adjusts the width of the selected columns to match the width of the widest column in the selection. The total width of the table cannot exceed the width of the page.

Align Top, Center Vertically, Align Bottom

Sets the vertical alignment of text in selected cells.

Insert Row Above, Insert Row Below

Click in a cell or cells to select rows and use these two tools to insert a row or rows above or below the selected rows. Alternatively, right-click on the selected rows and select **Insert > Insert Row Above** or **Insert Row Below**.

Insert Column Before, Insert Column After

Click in a cell or cells to select columns and use these two tools to insert a column or columns before or after the selected columns. Alternatively, right-click on the selected columns and select **Insert > Insert Column Before** or **Insert Column After**.

Delete Row, Delete Column, Delete Table

Click in a cell or cells to select rows or columns, then click on a tool to delete the selected rows or columns. To delete the whole table, place the cursor in a cell and select **Delete Table**. Alternatively, right-click on the selected cells and select **Delete > Delete Row**, or **Delete Column**, or **Delete Table** from the context menu.

Select Table, Select Column, Select Row

Select a table, column, or row if the same attributes are going to be applied to a table, column, or row.

Table Design

Clicking on this tool opens the **Table Design** panel in the Properties deck on the Sidebar. See “Table Design panel” on page 234 for more information.

Table Properties

Clicking on this tool opens the Table Properties dialog. Alternatively, right-click on the table and select **Table Properties** from the context menu.

Menu bar

Go to **Format > Table** on the Menu bar and select a formatting option from the submenu.

Minimal Row Height

Determines the minimal row height for selected rows. Minimal row height depends on the font size of the smallest character in the row.

Optimal Row Height

Determines the optimal row height for selected rows. Optimal row height depends on the font size of the largest character in the row.

Distribute Columns Evenly

Adjusts the width of the selected columns to match the width of the widest column in the selection. The total width of the table cannot exceed the width of the page.

Select Row

Selects the row or rows where cells have been selected in the table.

Insert Rows

Inserts rows in the table where cells have been selected in the table.

Delete Row

Deletes rows in the table where cells have been selected in the table.

Minimal Column Width

Defines the minimal column width for selected columns. Minimal column width depends on the shortest entry within a column.

Optimal Column Width

Defines the optimal column width for selected columns. Optimal column width depends on the longest entry within a column.

Distribute Columns Evenly

Adjusts the width of the selected columns to match the width of the widest column in the selection. The total width of the table cannot exceed the width of the page.

Select Column

Selects the column or columns where cells have been selected in the table.

Insert Columns

Inserts columns in the table where cells have been selected in the table.

Delete Column

Deletes columns in the table where cells have been selected in the table.

Merge Cells

Merges the selected cells into one cell. The contents of the merged cells are also merged. Alternatively, right-click on selected cells and select **Merge Cells** from the context menu.

Split Cells

Splits a selected cell into multiple cells either horizontally or vertically. Make sure that the cursor is positioned on the cell, then click on **Split Cells** to open the Split Cells dialog (Figure 234 on page 236).

In *Split cells into*, select the number of cells required when splitting a cell and whether to split the cell *Horizontally* or *Vertically*. If necessary, when splitting horizontally, select *Into equal proportions* to create cells of equal size. The contents of the split cell are kept in the original cell (left or top cell).

Delete Table

To delete the whole table, place the cursor in a cell and select Delete Table. Alternatively, right-click on the selected cells and select Delete Table from the context menu.

Select…

Selects the whole table.

Properties…

Opens the Table Properties dialog.

Table Properties dialog

The Table Properties dialog has five tabbed pages that provide formatting options for **Font**, **Font Effects**, **Borders**, **Background**, and **Shadow**. Open the Table Properties dialog using one of the following methods:

The formatting options on each dialog page are as follows:

Font (Figure 235)

Select the required **Family**, **Style**, **Size**, and **Language** for text in the table. A sample of the font selected is displayed in the preview box. See the *Writer Guide* for more information on fonts.

Font Effects (Figure 236)

Select the required **Font Color**, **Text Decoration**, and **Effects** for the text in the table. A sample of the font effects applied to the text is displayed in the preview box. See the *Writer Guide* for more information on font effects.

Borders (Figure 237)

Select the required **Line Arrangement**, **Line**, and **Padding** for the table and cell borders. These options are similar to the tools **Border Style**, **Border Color**, and **Borders** on the Table toolbar. See Chapter 4, Changing Object Attributes for more information on the lines used for table and cell borders.

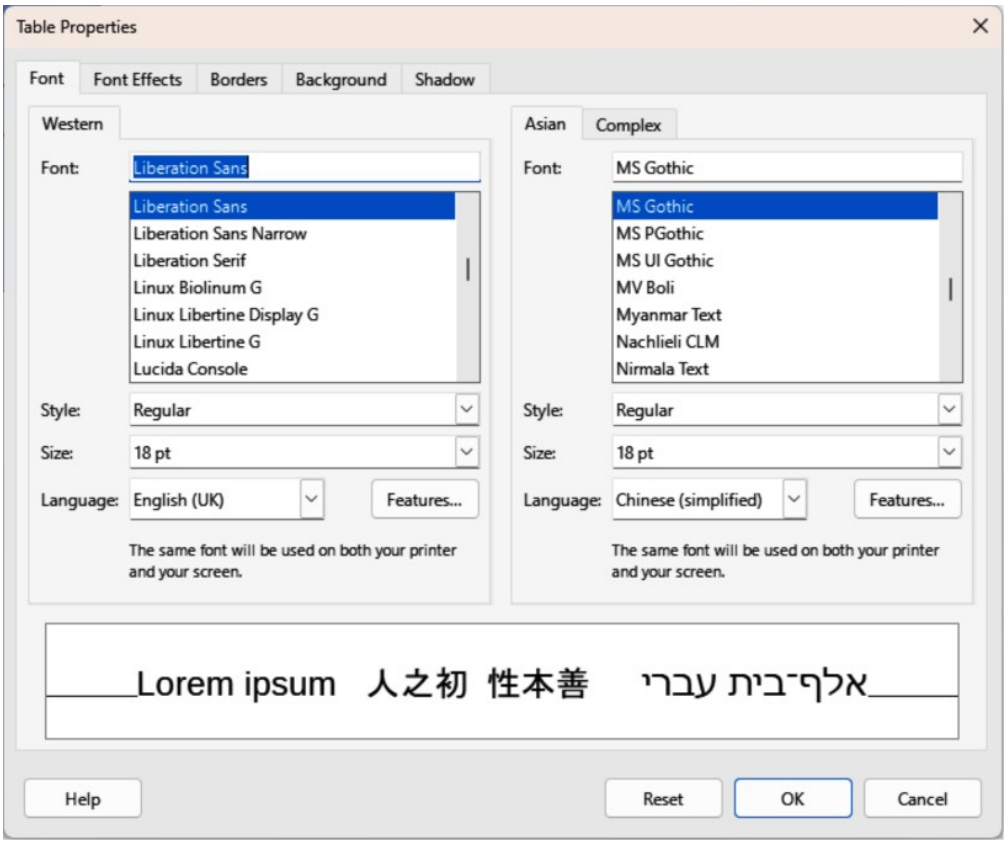

Figure 235: Table Properties dialog — Font page

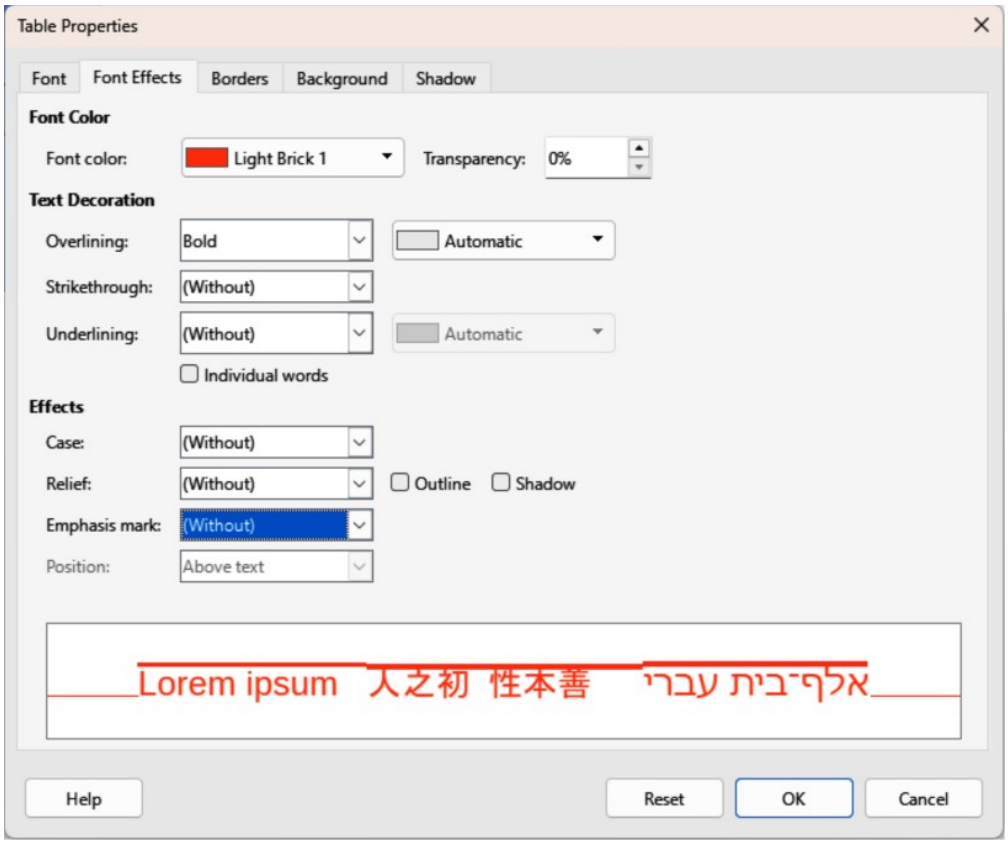

Figure 236: Table Properties dialog — Font Effects page

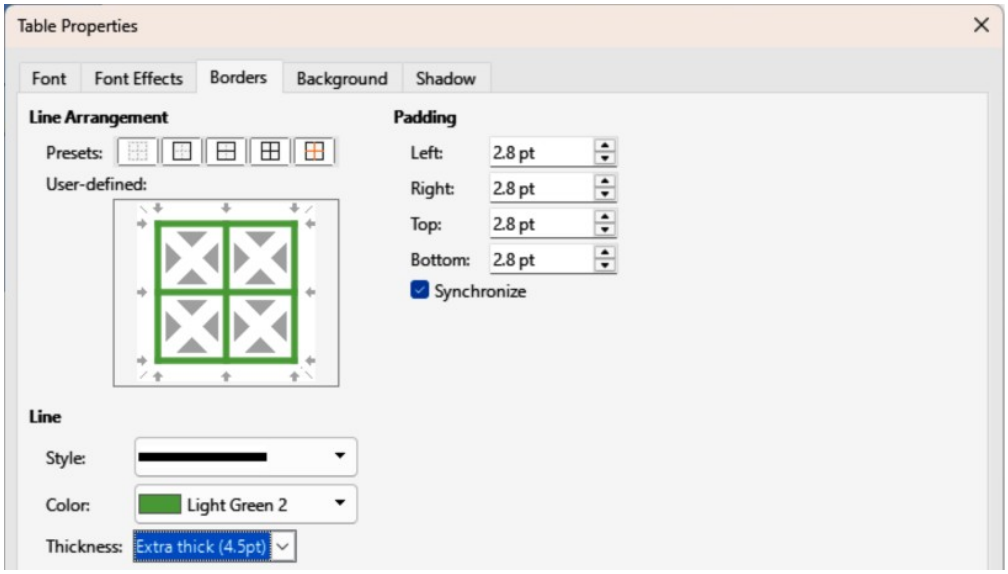

Figure 237: Table Properties dialog — Borders page

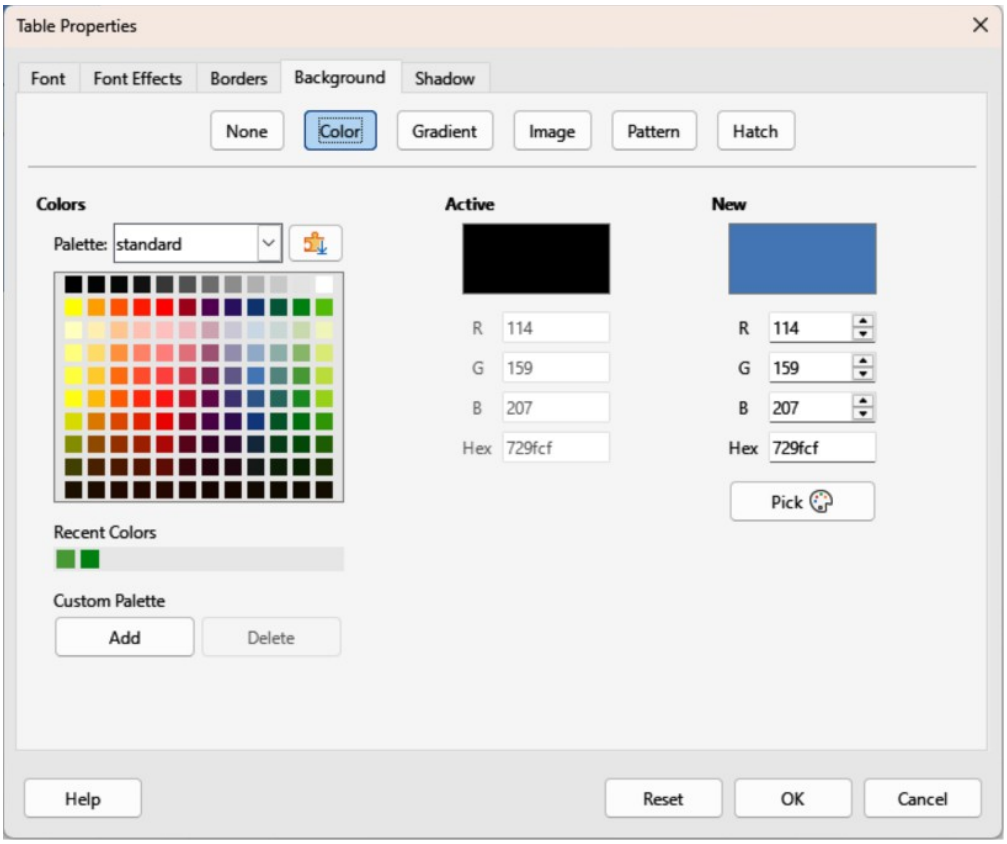

Figure 238: Table Properties dialog — Background

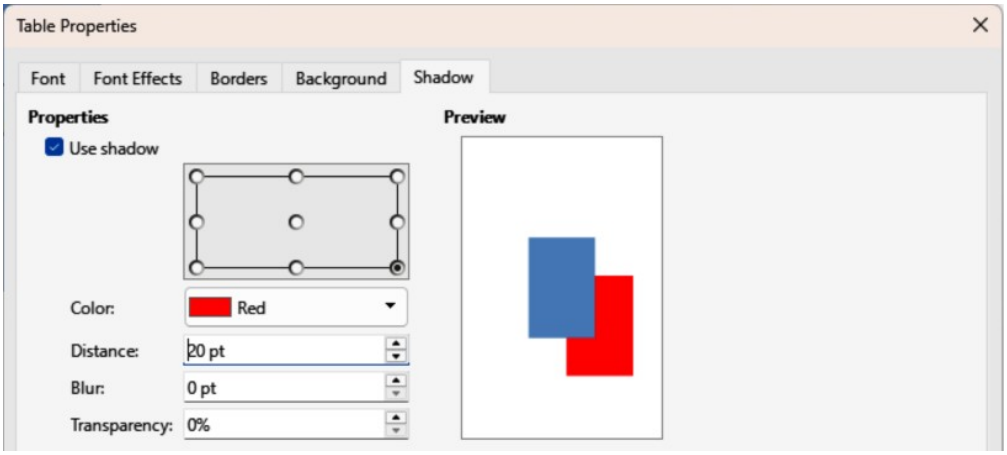

Figure 239: Table Properties dialog — Shadow page

Background (Figure 238)

Select a background as the area fill for the table and/or selected cells. This dialog page provides the same functions as **Area Style/Filling** tools on the Table toolbar. See Chapter 4, Changing Object Attributes for more information on area style and filling used for table and cell backgrounds.

Shadow (Figure 239)

Adds a shadow to the table. The options adjust the look and position of the shadow. See Chapter 4, Changing Object Attributes for more information on table shadows.

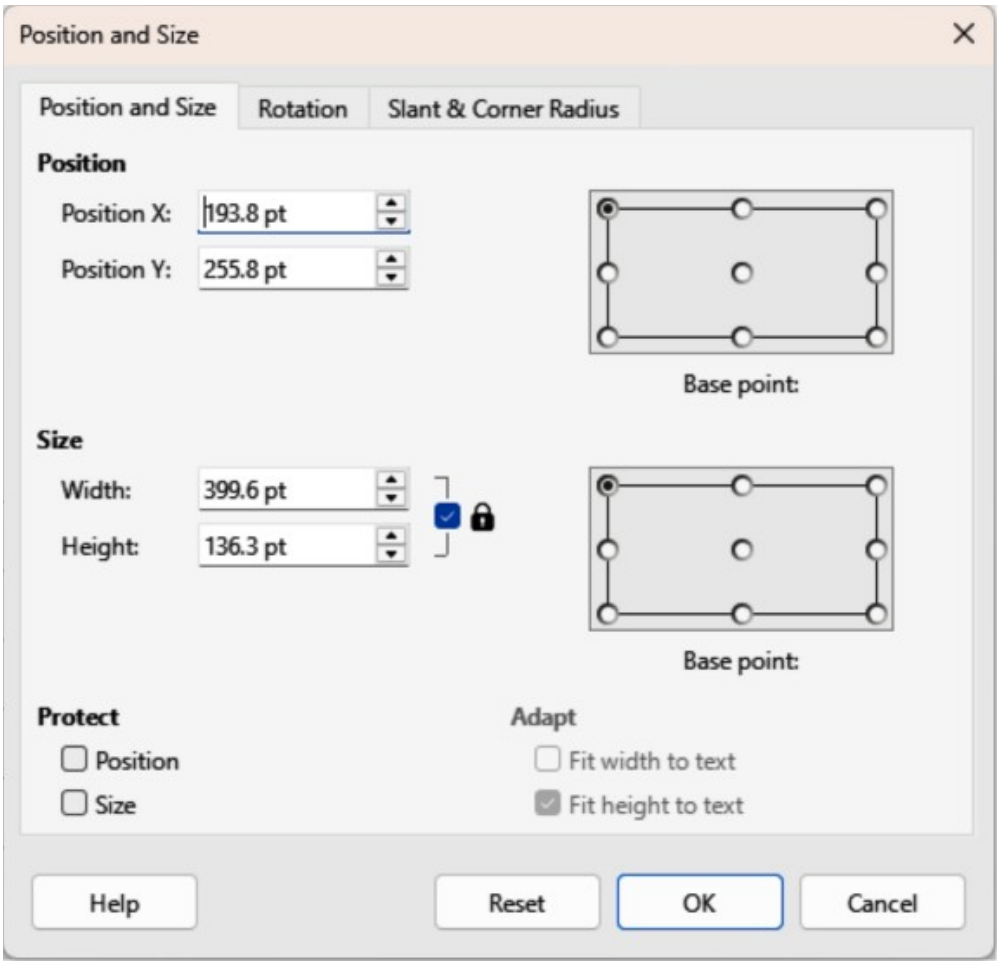

Figure 240: Position and Size dialog

Table position and size

Tables are placed into boxes when created. This allows tables to be formatted as a LibreOffice Draw object. After selecting the table, use one of the following methods to change table position and size. See “Text boxes” on page 207 and Chapter 3, Working with Objects for more information positioning and resizing.

- Click on the table border and drag the table to a new position.
- Click and drag on a selection handle to change the table size.
- Open the Position and Size dialog and use the options available on the **Position and Size** page (Figure 240). The options available in the **Rotation**, and **Slant & Corner Radius** pages cannot be used for a table.

After selecting the table, use one of the following methods to open the Position and Size dialog:

- Right-click on the table and select **Position and Size** from the context menu.
- Go to **Format > Position** and Size on the Menu bar.
- Use the keyboard shortcut *F4*.

Note

When the size of a table box is changed, the table and cell contents also increase or decrease in size to match the table box size.

Deleting tables

Whole table

Make sure the table is selected and the selection handles are visible on the table border, then delete the table using one of the following methods:

- Go to **Format > Table > Delete Table** on the Menu bar.
- Select **Delete Table** on the Table toolbar.
- Right-click on the table and select **Delete > Delete Table** from the context menu.

Row or column

Click in a table cell to delete the table row or column using one of the following methods. Make sure the table selection handles are **NOT** displayed.

- Go to **Format > Table > Delete Row**, or **Delete Column** on the Menu bar
- Select **Delete Row**, or **Delete Column** on the Table toolbar.
- Right-click and select **Delete > Delete Row**, or **Delete Column** from the context menu.

Cell contents

Delete cell contents in a table as follows:

1) Select the cell or cells.
2) Press the *Delete*, or *Backspace* key on the keyboard.

Using fields

Fields allow for the automatic insertion of text into a drawing and are used when creating templates and drawing masters. For more information on templates and master drawings, see Chapter 11, Advanced Drawing Techniques.

Inserting fields

When a field is created, a text box for the field is inserted into the center of a drawing and can be repositioned just like any other text box. See “Text boxes” on page 207 for more information.

1) Go to **Insert > Field** on the Menu bar and select the type of field required.
2) If required, position and resize the field text box.
3) If required, format the text used for the field information. See “Formatting text” on page 217 for more information.

Field types

Date (fixed)

Inserts the current date into a drawing as a fixed field. The date is not automatically updated. Available date formats depend on the language setting in **Tools > Options > Language Settings > Language** (macOS **LibreOffice > Preferences > Language Settings > Language**). Right-click on the date field and select the required date format from the context menu.

Date (variable)

Inserts the current date into a drawing as a variable field. The date is automatically updated each time the file is opened. Available date formats depend on the language setting in **Tools > Options > Language Settings > Language** (macOS **LibreOffice > Preferences > Language Settings > Language**). Right-click on the date field and select the required date format from the context menu.

Time (fixed)

Inserts the current time into a drawing as a fixed field. The time is not automatically updated. Available time formats depend on the language setting in **Tools > Options > Language Settings > Language** (macOS **LibreOffice > Preferences > Language Settings > Language**). Right-click on the time field and select the required time format from the context menu.

Time (variable)

Inserts the current time into a drawing as a variable field. The time is automatically updated each time the file is opened. Available time formats depend on the language setting in **Tools > Options > Language Settings > Language** (macOS **LibreOffice > Preferences > Language Settings > Language**). Right-click on the time field and select the required time format from the context menu.

Author

Inserts the first and last names of the author of the drawing. This information is taken from values entered in the LibreOffice user data. To modify this information go to **Tools > Options > LibreOffice > User Data** (macOS **LibreOffice > Preferences > LibreOffice > User Data**).

Page Number

Inserts the page number into the current drawing. Alternatively, go to **Insert > Page Number** on the Menu bar. If a page number is to be added to every page in the drawing, go to **View > Master** on the Menu bar and insert the page number field.

Page Title

Inserts the page title. The default name is *Page #* if the page has not been renamed.

Page Count

Inserts the total number of pages in a drawing.

File Name

Inserts the name of the file used for the drawing. The file name only appears after the file has been saved.

Using hyperlinks

When inserting text that can be used as a hyperlink (for example, a website address or URL), Draw automatically formats it creating the hyperlink, and applies color and underlining. There are four types of hyperlinks and each hyperlink type requires a different procedure when inserting a hyperlink.

Note

To prevent LibreOffice from automatically turning website addresses, or URLs into hyperlinks, go to **Tools > AutoCorrect Options > Options** on the Menu bar and deselect URL Recognition.

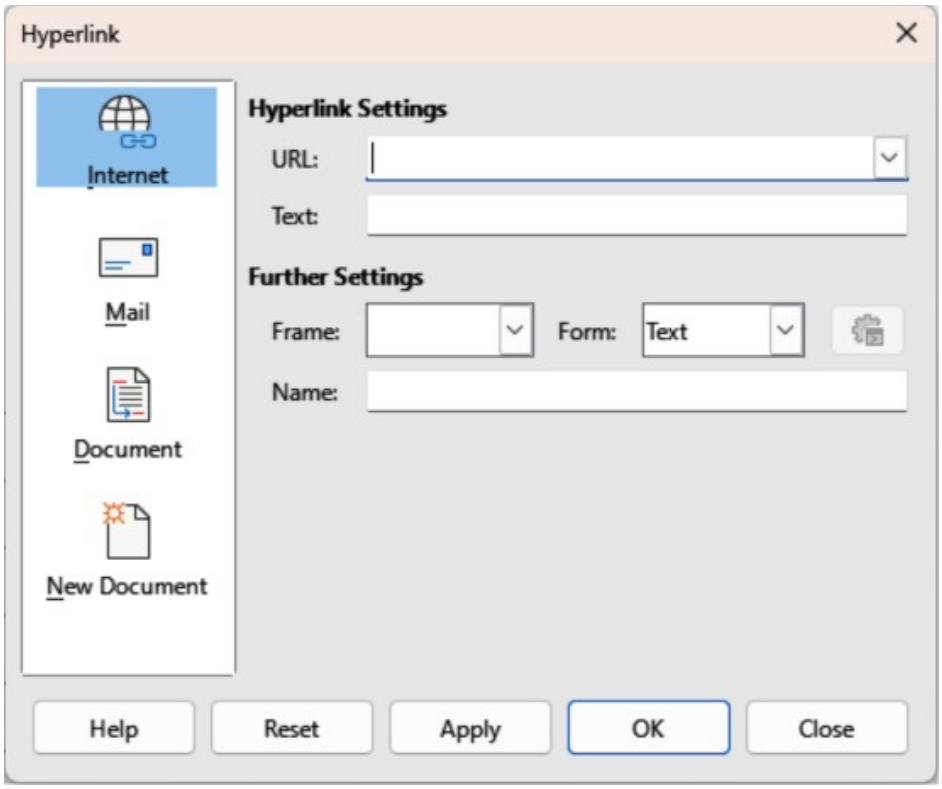

Figure 241: Hyperlink dialog — Internet page

Tip

To change the color of hyperlinks, go to **Tools > Options > LibreOffice > Application Colors**, scroll to *Unvisited links* and/or *Visited links*, select the checkboxes, then select new colors from the color palettes for the links and click **OK**. Note this color change changes the color for all hyperlinks across all LibreOffice modules.

Internet hyperlink

1) Click in the text box at the required position for the hyperlink.
2) Go to **Insert > Hyperlink** on the Menu bar, or use the keyboard shortcut *Ctrl+K* (macOS ⌘+*K*) to open the Hyperlink dialog.
3) Select **Internet** to open the **Internet** page of the Hyperlink dialog (Figure 241).
4) In *Protocol*, select either **Web**, or **FTP**.
5) In the *URL* text box, enter the required web address for the hyperlink.
6) In the *Text* box, enter a name for the hyperlink.
7) If necessary, enter the details required for **Further Settings**. See “Further Settings” on page 248 for more information.
8) Click **Apply** to insert the hyperlink and save the selections. If several hyperlinks are being created, click **Apply** after inserting each hyperlink.
9) Click **OK** to close the Hyperlink dialog.

Mail hyperlink

1) Click in the text box at the required position for the hyperlink.

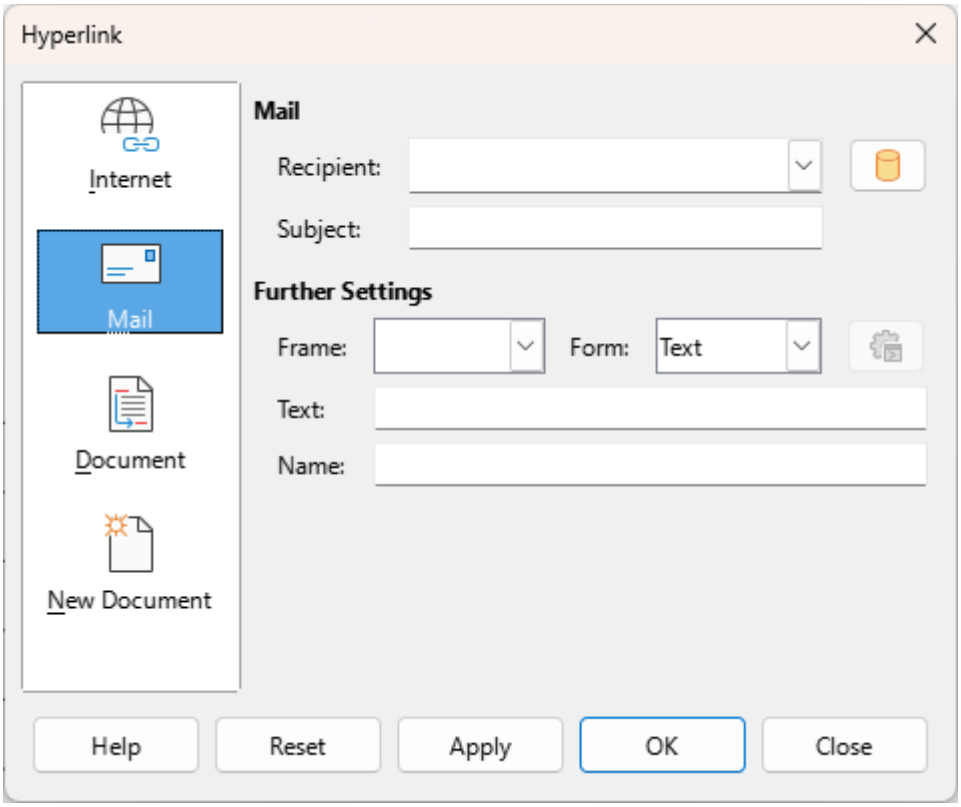

Figure 242: Hyperlink dialog — Mail page

2) Go to **Insert > Hyperlink** on the Menu bar, or use the keyboard shortcut *Ctrl+K* (macOS ⌘+*K*) to open the Hyperlink dialog.
3) Select **Mail** to open the **Mail** page of the Hyperlink dialog (Figure 242).
4) In *Recipient* text box, enter the email details of the recipient.
5) In the *Subject* text box, enter a subject title.
6) If required, click on **Data Sources** to open a data source browser, then drag the email receiver data field from the data source browser into the *Recipient* text box.
7) If required, enter the details required for **Further Settings**. See “Further Settings” on page 248 for more information.
8) Click **Apply** to insert the hyperlink and save the selections. If several hyperlinks are being created, click **Apply** after inserting each hyperlink.
9) Click **OK** to close the Hyperlink dialog.

Document hyperlink

Creates a hyperlink to another document or to another place in a document, commonly referred to as a bookmark.

1) Click in the text box at the required position for the hyperlink.
2) Go to **Insert > Hyperlink** on the Menu bar, or use the keyboard shortcut *Ctrl+K* (macOS ⌘+*K*) to open the Hyperlink dialog.
3) Select **Document** to open the **Document** page of the Hyperlink dialog (Figure 243).

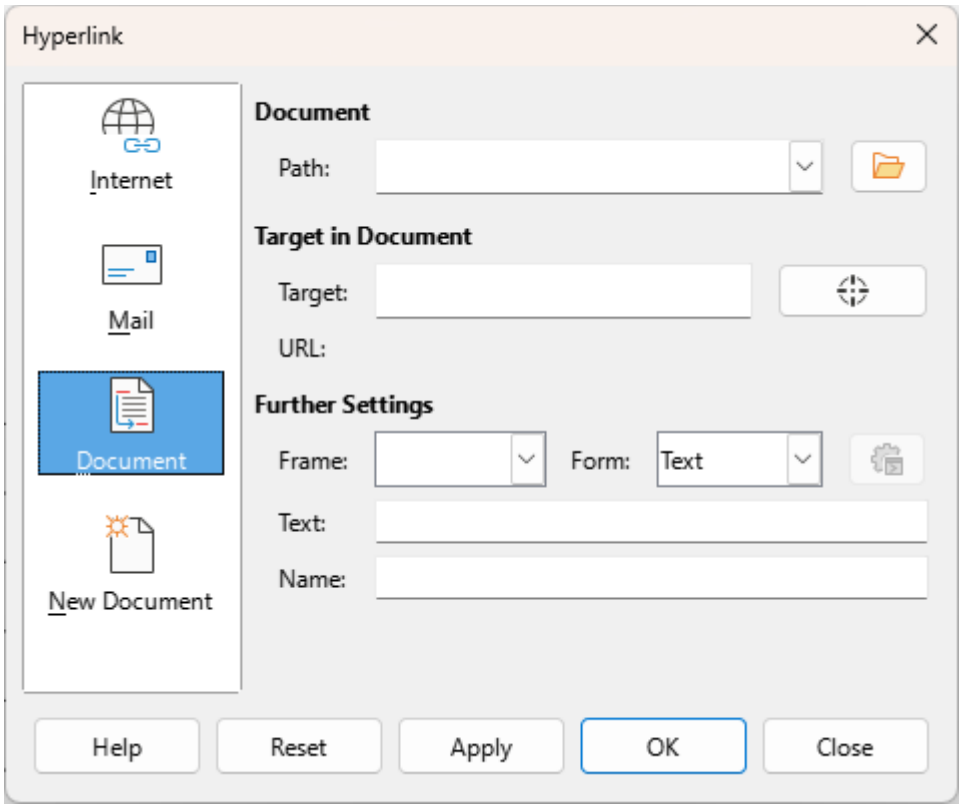

Figure 243: Hyperlink dialog — Document page

Note

Leave *Path* blank if the link is to a target in the same drawing.

4) In the *Path* text box, enter the file path for the document.
5) Alternatively, click on **Open File** to open a file browser and select the file as a target for the hyperlink.
6) Optionally, to specify a target in a specific drawing, click on **Target in Document** to open a dialog to select a target. However, if the name of the target is known, type it into the *Target* text box.
7) If required, enter the details required for **Further Settings**. See “Further Settings” on page 248 for more information.
8) Click **Apply** to insert the hyperlink and save the selections. If several hyperlinks are being created, click **Apply** after inserting each hyperlink.
9) Click **OK** to close the Hyperlink dialog.

New Document hyperlink

Creates a new document and a hyperlink to the new document.

1) Click in the text box at the required position for the hyperlink.
2) Go to **Insert > Hyperlink** on the Menu bar, or use the keyboard shortcut *Ctrl+K* (macOS ⌘+*K*) to open the Hyperlink dialog.
3) Select **New Document** to open the **New Document** page of the Hyperlink dialog (Figure 244).

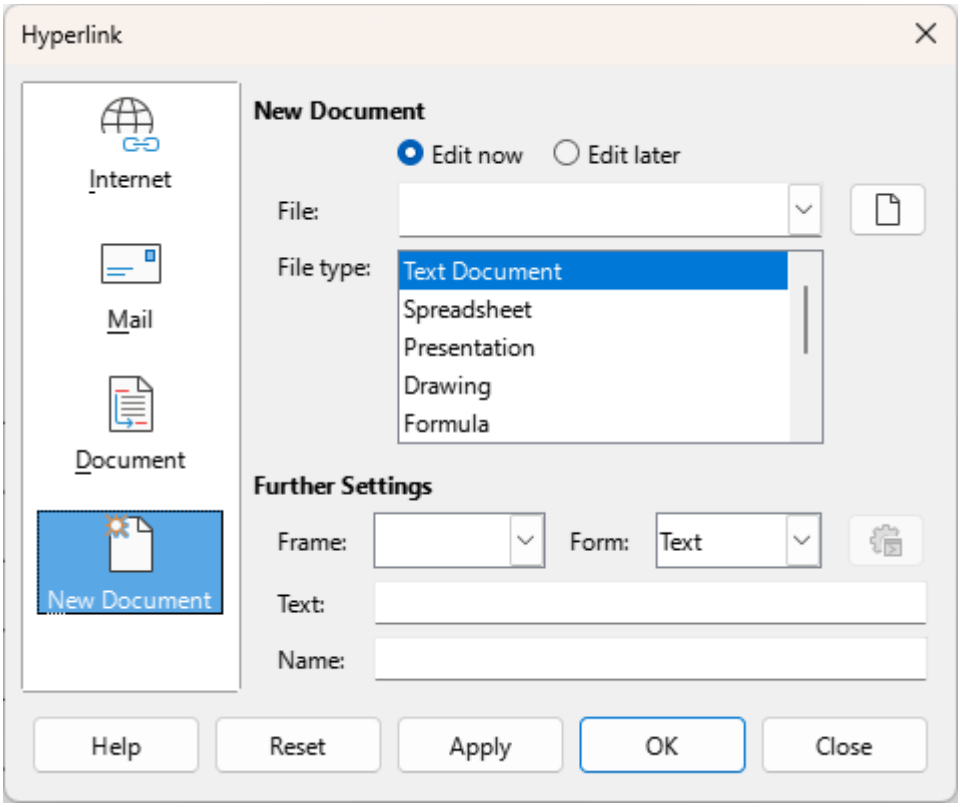

Figure 244: Hyperlink dialog — New Document page

4) In **New Document** select *Edit now* to edit the newly created document immediately, or *Edit later* to only create the hyperlink.
5) Select the type of document to create from the *File type* drop-down list.
6) Click on **Select Path** to open a file browser and navigate to the folder where the new document is going to be saved
7) Select the folder and click on **Open**. The selected folder appears in the *File* text box.
8) If necessary, enter the details required for **Further Settings**. See “Further Settings” on page 248 for more information.
9) Click **Apply** to insert the hyperlink and save the selections. If several hyperlinks are being created, click **Apply** after inserting each hyperlink.
10) Click **OK** to close the Hyperlink dialog.

Further Settings

The **Further Settings** section in the Hyperlink dialog is common to all hyperlink types, although some options are more relevant to specific types of links.

Frame

Enter a name for the frame in the *Frame* text box that the linked file opens in, or select a predefined frame from the list. If the *Frame* text box is empty, the linked file opens in the current browser window.

Form

Specifies whether the hyperlink is inserted as text, or as a button.

Text

Specifies the visible text, or button caption for the hyperlink.

Name

Applicable to HTML documents. It specifies the text added as a NAME attribute in the HTML code behind the hyperlink.

Editing text hyperlinks

1) Select the hyperlink.
2) Right-click on the hyperlink and select **Edit Hyperlink** from the context menu to open the Hyperlink dialog.
3) Make editing changes using the available options.
4) Click **Apply** to insert the hyperlink and save the selections. If several hyperlinks are being created, click **Apply** after inserting each hyperlink.
5) Click **OK** to save the changes and close the Hyperlink dialog.

Note

DO NOT click directly on the hyperlink text when editing or formatting hyperlinks. Clicking on the hyperlink text opens the hyperlink.

Formatting hyperlinks

A hyperlink is inserted in the centre of the current slide. To edit the text, the size of a hyperlink text box, or to reposition the hyperlink on the slide:

1) Click and drag a selection marquee over the hyperlink text to display a text box border and selection handles.
2) Right-click on the selected hyperlink and select the type of formatting required from the options available in the context menu.
3) To reposition hyperlink, click and drag on the text border to move the hyperlink on the slide.
4) Select **Position and Size** from the context menu, or use the *F4* key to open the Position and Size dialog. Options can be selected to move the hyperlink, or resize the text box.

Image maps

An image map defines areas used as hotspots in images which are associated with a URL (web address or a file on the computer). Hotspots are the graphic equivalent of text hyperlinks. In Draw, clicking on a hotspot opens the linked page in the appropriate program (for example, default browser for HTML pages; Writer for ODT files; PDF viewer for PDF files).

Hotspots can be created in various shapes, for example rectangles, ellipses, and polygons. Several hotspots can be included in the same image. When a hotspot is clicked on, the URL opens in a browser window or frame that has been specified. The text can also be specified as a hotspot name that appears when the cursor hovers over a hotspot.

Creating image maps

1) Select an image in a drawing to use as a hotspot.
2) Go to **Tools > ImageMap** on the Menu bar to open the ImageMap Editor dialog (Figure 245). The main part of the dialog shows the selected image where hotspots will be defined.

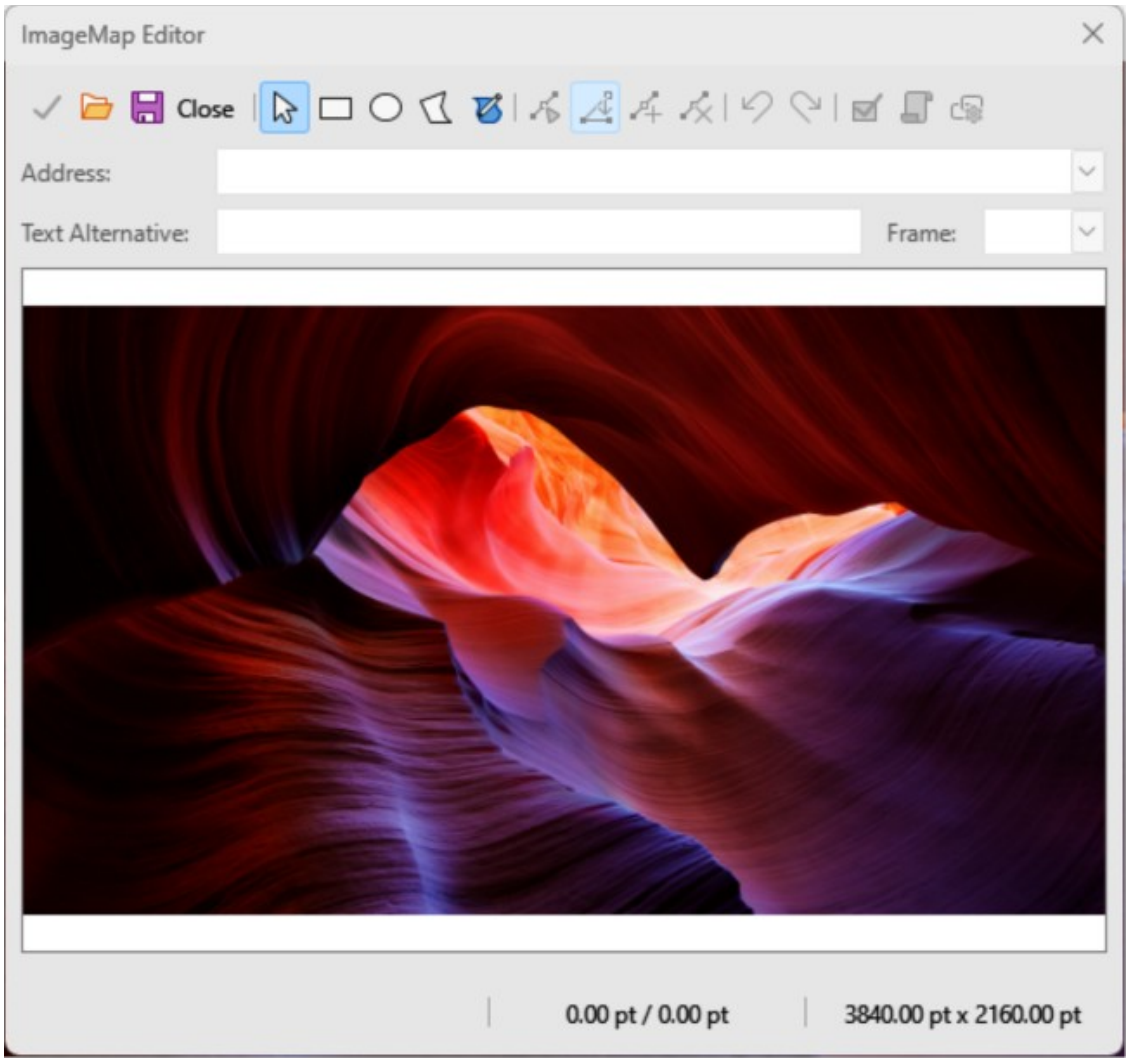

Figure 245: ImageMap Editor dialog

3) Select the type of hotspot area required from the icons at the top of the ImageMap Editor dialog from the options **Rectangle**, **Ellipse**, **Polygon**, or **Freeform Polygon**.
4) Create the hotspot area in the selected image.
5) Enter the hyperlink address for the hotspot in the **Address** text box using the address format: `file:///<path>/document_name#anchor_name`.
6) Click on **Apply** to apply the settings.
7) Click on **Save** to save the image map to a file.
8) Click on **Close** in the ImageMap Editor dialog.

Image map tools

Apply

Applies the changes.

Open

Loads an existing image map in the MAP-CERN, MAP-NCSA or SIP StarView file format.

Save

Saves the image map in the MAP-CERN, MAP-NCSA, or SIP StarView file format.

Select

Selects a hotspot in the image map for editing.

Rectangle, Ellipse, Polygon, Freeform Polygon

Creates a hotspot on the selected image in the shape selected.

Edit Points

Change the shape of the selected hotspot by editing anchor points.

Move Points

Moves individual anchor points of the selected hotspot.

Insert Points

Adds an anchor point at the selected point on the outline of the hotspot.

Delete Points

Deletes a selected anchor point.

Undo

Cancels the previous action.

Redo

Reapplies the previous cancelled action.

Active

Toggles the status of a selected hotspot between active and inactive.

Macro

Assign a macro that runs when the hotspot is clicked on.

Properties

Define the properties of the selected hotspot.

Address

Enter the URL for the file that opens when the selected hotspot is clicked on. The address format to be used: `file:///<path>/document_name#anchor_name`.

Text

Enter the text that is displayed when the cursor hovers over a hotspot. If no text is entered, the **Address** is displayed.

Frame

Enter the name of the target frame for the hotspot. Standard frame name can be selected from the drop-down list and used instead.

_blank

Opens in a new browser window.

_self

Default selection and opens in the current window.

_top

File opens in the topmost frame in the hierarchy.

_parent

File opens in the parent frame of the current frame. If there is no parent frame, the current frame is used.

Graphic view

Displays the image map so that the hotspots can be selected and edited.

Note

The value *_self* for a target frame works on the majority of the occasions. It is not recommended to use the other values, if available, unless absolutely necessary.

Fontwork

Fontwork is used to create graphical text as objects in a drawing. Different settings for **Fontwork** (line, area, position, size, and more) are available to match the drawing requirements. **Fontwork** is also available in the Writer, Calc, and Impress modules in LibreOffice. However, there are small differences in the way that each LibreOffice module displays **Fontwork**.

Creating Fontwork

1) Go to **Insert > Fontwork** on the Menu bar to open the Fontwork Gallery dialog (Figure 246) and select a Fontwork style from the dialog.
2) Double click on the selected Fontwork, or select **OK**. This closes the Fontwork Gallery dialog and the selected Fontwork appears in the center of the drawing.

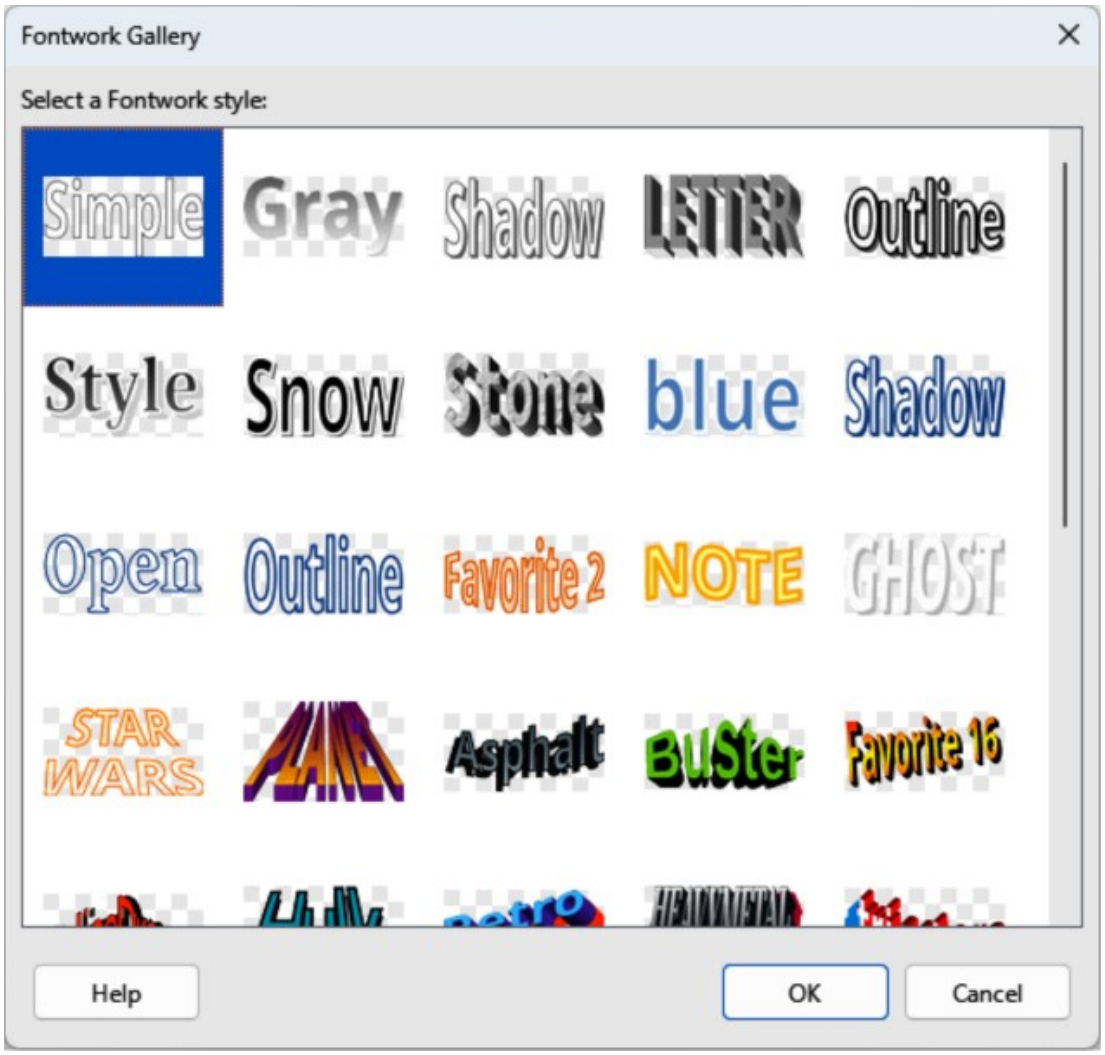

Figure 246: Fontwork Gallery dialog

Figure 247: Example of creating Fontwork text

Figure 248: Fontwork toolbar

3) Double-click on the Fontwork object to switch on editing mode. The example Fontwork text appears in the center of the image in text edit mode, as shown by the example in Figure 247.

4) Highlight all of the text in edit mode to select it, then type in the required text to replace the highlighted text.

5) Press the *Esc* key, or click outside the selected area to apply the new text and it appears as a Fontwork object in the center of the drawing.

6) If necessary reposition and resize the Fontwork object to the drawing requirements. See Cpter 3, Working With Objects and Chapter 4, Changing Object Attributes for more information.ha

Fontwork toolbar

When a Fontwork object is selected, the Fontwork toolbar (Figure 248) opens on the Workspace. If the toolbar is not visible, go to **View > Toolbars > Fontwork** on the Menu bar.

The following tools are available for editing a Fontwork object.

Insert Fontwork Text

Opens the Fontwork Gallery dialog.

Fontwork Shape

Changes the shape of a selected Fontwork object. Click on the triangle ▼ next to **Fontwork Shape** on the Fontwork toolbar to open the Fontwork pop-up toolbar. Select a Fontwork shape for the available options. The Fontwork shapes are also available in the Fontwork Shape sub-toolbar (Figure 249).

Fontwork Same Letter Heights

Changes the height of characters in a selected Fontwork object. Toggles between normal height where the characters have different heights to where all characters have the same height.

Figure 249: Fontwork Shape subtoolbar

Fontwork Alignment

Specifies the text alignment within the frame. Options available are *Left Align*, *Center*, *Right Align*, *Word Justify*, and *Stretch Justify*.

Fontwork Character Spacing

Selects the spacing between characters and whether kerning pairs should be used. Options available are *Very Tight*, *Tight*, *Normal*, *Loose*, *Very Loose*, and *Custom*. For *Custom* spacing, input a percentage value: 100% is normal character spacing; less than 100% character spacing is tighter; more than 100% character spacing is looser.

Toggle Extrusion

Converts the Fontwork object into a 3D shape using extrusion. See Chapter 7, 3D Objects for more information.

Modifying Fontwork

A Fontwork object is treated like any other object in Draw. It can be resized, rotated, skewed, slanted, flipped, and so on. For more information on modifying a Fontwork object, see Chapter 3, Working With Objects, Chapter 4, Changing Object Attributes, and Chapter 5, Combining Multiple Objects.

- Fontwork consists of text, but only minimal text formatting options can be used with Fontwork text, for example font type, font size, **Bold**, or *Italic*.
- Some of Fontwork shapes can be modified and this is indicated by a dot appearing on a selected shape. For example, change angles of a trapezoid, or parallelogram basic shapes by moving the dot displayed when the selection handles are visible.

Draw Guide 24.8

Chapter 10, Printing, Exporting and Emailing

Introduction

The dialogs and procedures for printing, exporting and emailing drawings from Draw are EXAMPLES only. Actual dialogs and procedures do depend on the following:

- Type of computer and how rthe computer is setup.
- Computer operating system and software application being used.
- Type of printer connected to the computer.
- How the printer is connected to the computer, for example cable or wi-fi.

Default printer setup

Before printing any drawings from Draw, it is recommended to setup a default printer that is connected to the computer. An example printer setup procedure for Draw is as follows:

1) Go to **File > Printer Settings** on the Menu bar to open the Printer Setup dialog. An example Printer Setup dialog is shown in Figure 250.
2) Select the required printer from the printers listed in the *Name* drop-down list.
3) If necessary, click on **Properties** in the Printer Setup dialog to open a properties dialog for the selected printer to select the options required for paper and the printer.
4) Click **OK** to save the printer selection and close the Printer Setup dialog.

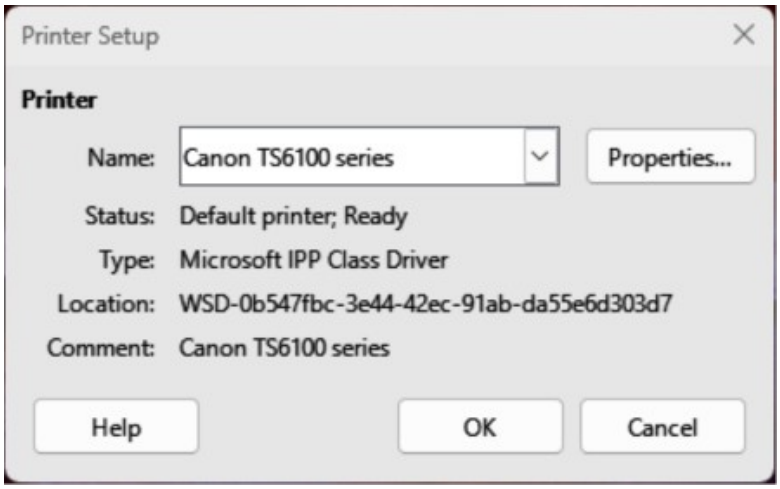

Figure 250: Example Printer Setup dialog

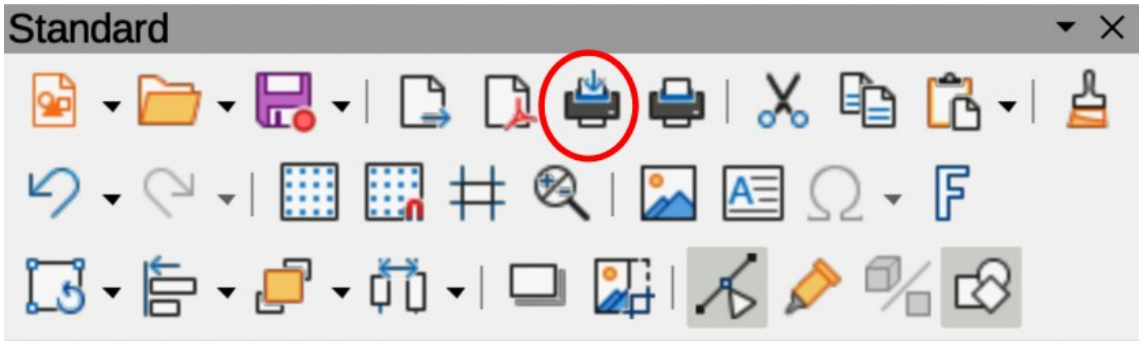

Figure 251: Standard toolbar with Print Directly installed

Quick printing

To quickly print a document or drawing, without changing print settings already selected, click on **Print Directly** on the Standard toolbar (highlighted in Figure 251). **Print Directly** sends the entire document to the default printer defined for the computer.

If **Print Directly** is not visible on the Standard toolbar, it is added to the toolbar as follows:

1) Right-click in an empty area on the Standard toolbar and select **Visible Buttons** from the context menu.
2) Select **Print Directly** from the list of available tools and the **Print Directly** tool is added to the Standard toolbar.

Linux or Windows printing

For more control over printing when using Linux or Windows operating system, open a Print dialog using one of the following methods.

- Go to **File > Print** on the Menu bar.
- Use the keyboard shortcut *Ctrl+P*.
- Click on **Print** on the Standard toolbar.

Notes

The options selected in the Print dialog only apply to the printing of the current document open in Draw. Any print options selected in the Print dialog overrides the default LibreOffice printer settings that have been set using **Tools > Options > LibreOffice > Print** (macOS **LibreOffice > Preferences > LibreOffice > Print**) and **Tools > Options > LibreOffice Draw > Print** (macOS **LibreOffice > Preferences > LibreOffice Draw > Print**).

General options

Figure 252 displays an example of printing options that may be available on the **General** page of the Print dialog in Windows/Linux.

Printer

Select the printer to use from the printers available in the drop-down list.

Status:

Indicates if the selected printer is the default printer.

Properties

Click on **Properties** to open the properties dialog for the printer being used. The options available in this dialog depends on the type of printer connected to the computer and the computer operating system being used.

Range and Copies

All Pages

Prints all the pages in the document.

Selection

Prints the pages selected in Draw.

Pages

Select the page number(s) to print. For multiple pages, use the format 1, 3, 7 or 1 – 5, 7, 9 for page number selection.

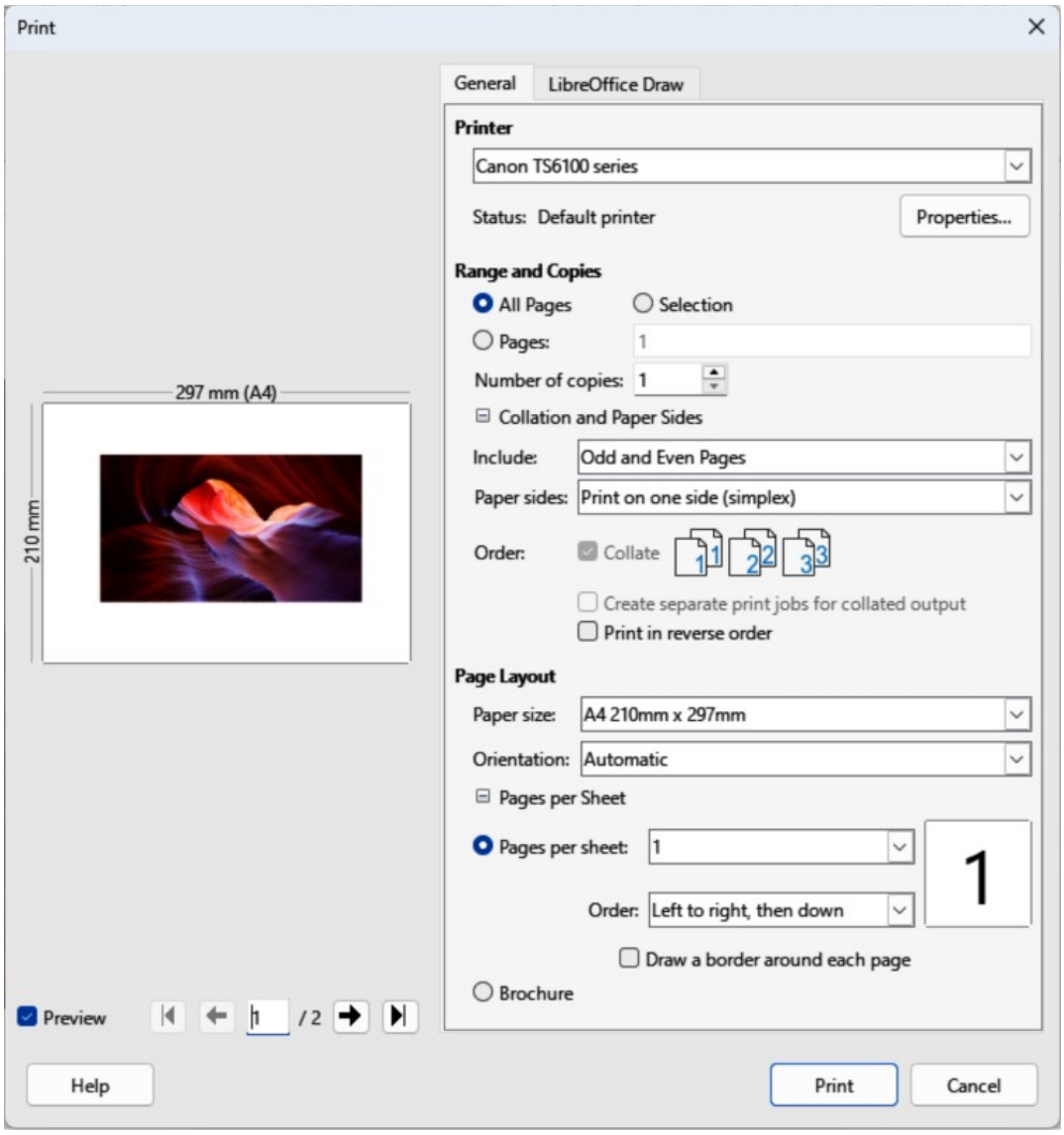

Figure 252: Example Print dialog — General page — Windows/Linux

Number of copies

Enter number of printed copies required for the document.

Collation and Paper Sides > Include

Select from the drop-down list *Odd and Even Pages*, *Odd Pages*, or *Even Pages*.

Collation and Paper Sides > Paper sides

Select from the drop-down list *Print on one side (simplex)*, *Print on both sides (duplex long edge)*, or *Print on both sides (duplex short edge)*.

Collation and Paper Sides > Order > Collate

Collates multiple printed copies into separate documents. Only available when multiple copies of a printed document are required.

Collation and Paper Sides > Order > Create separate print jobs for collated output

Only available when multiple copies of a printed document are required.

Collation and Paper Sides > Order > Print reverse order.

Prints the document pages in reverse order.

Page Layout

Paper size

Select the paper size to use from drop-down list.

Orientation

Select from the drop-down list *Automatic*, *Portrait*, or *Landscape*.

Pages per sheet

Select from the drop-down list how many pages are printed on one sheet of paper.

Order

Select from the drop-down list the printing order of multiple pages on one sheet of paper.

Draw a border around each page

When multiple pages are printed on one sheet of paper, a border is drawn around each page.

Brochure

Prints the document so the pages can be folded into a brochure or booklet.

LibreOffice Draw options

Figure 253 displays an example of printing options that may be available on the **LibreOffice Draw** page of the Print dialog for the current drawing being printed:

Contents

When selected, prints the *Page name* and/or *Date and time* on the drawing.

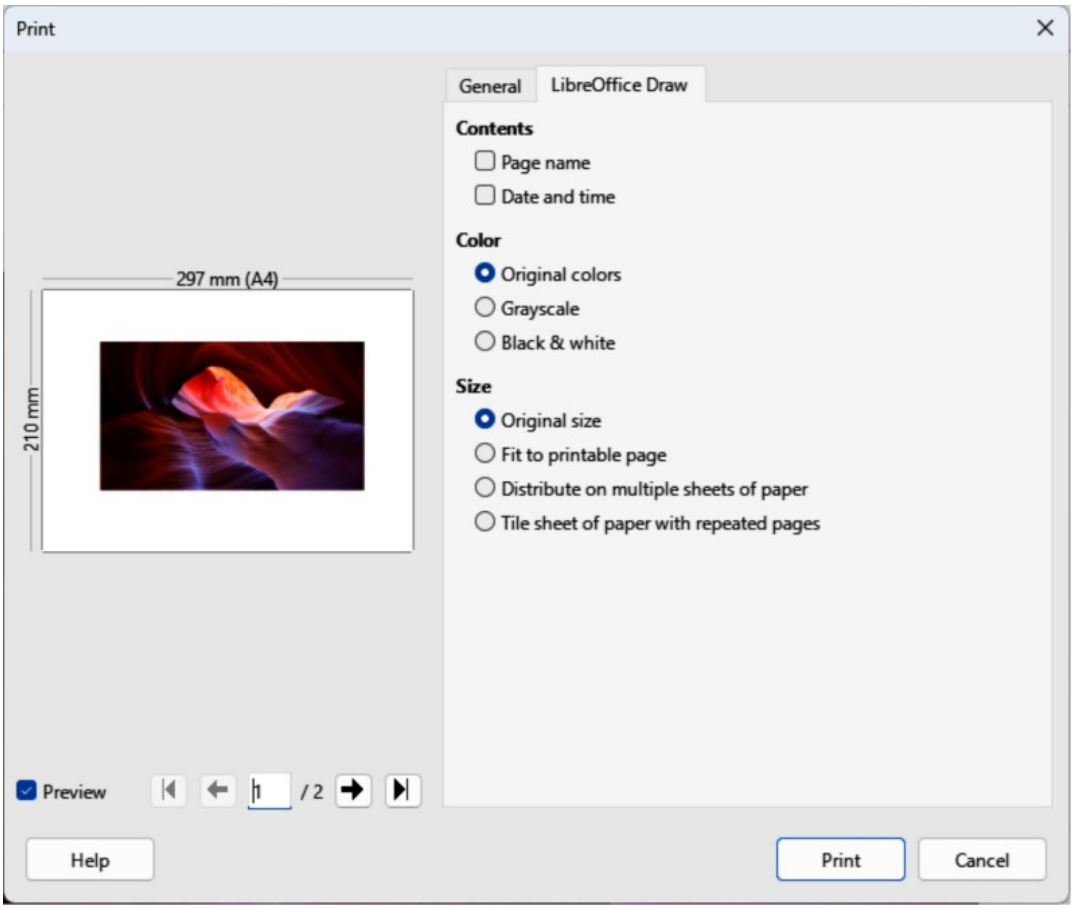

Figure 253: Example Print dialog — LibreOffice Draw page — Windows/Linux

Color

Prints the drawing in *Original colors*, *Grayscale*, or *Black & white.*

Size

Print the drawing using one of the following options:

Original size

Prints the drawing using its original size.

Fit to printable page

Drawing size is changed so that it fits on the paper size used for printing.

Distribute on multiple sheets of paper

Used if the drawing is too large for the paper size being used.

Tile sheet of paper with repeated pages

Used to print multiple copies of a drawing on a page.

macOS printing

For more control over printing using macOS, open and use the Print dialog using one of the following methods.

- Go to **File > Print** on the Menu bar.
- Use the keyboard shortcut ⌘+*P*.
- Click on **Print** on the Standard toolbar.

General options

Figure 254 displays an example of the printing options that may be available on the **General** page of the Print dialog in macOS.

Printer

Select the printer to be used from the drop-down list. If the default printer is being used, then this printer will already be selected.

Presets

Select from the drop-down list a printing preset. The presets available depend on the type of printer connected to the computer. This also includes any custom presets that have been created.

Copies

Enter the number of copies to be printed.

Pages

All

Prints all the pages in the document.

Range from

Select a range of page number(s) to print.

Selection

Select the pages to print from the Pages pane.

Print in Color

Select this option to print the drawing in color if the printer selected is capable of color printing. Deselect this option to print the drawing in monochrome.

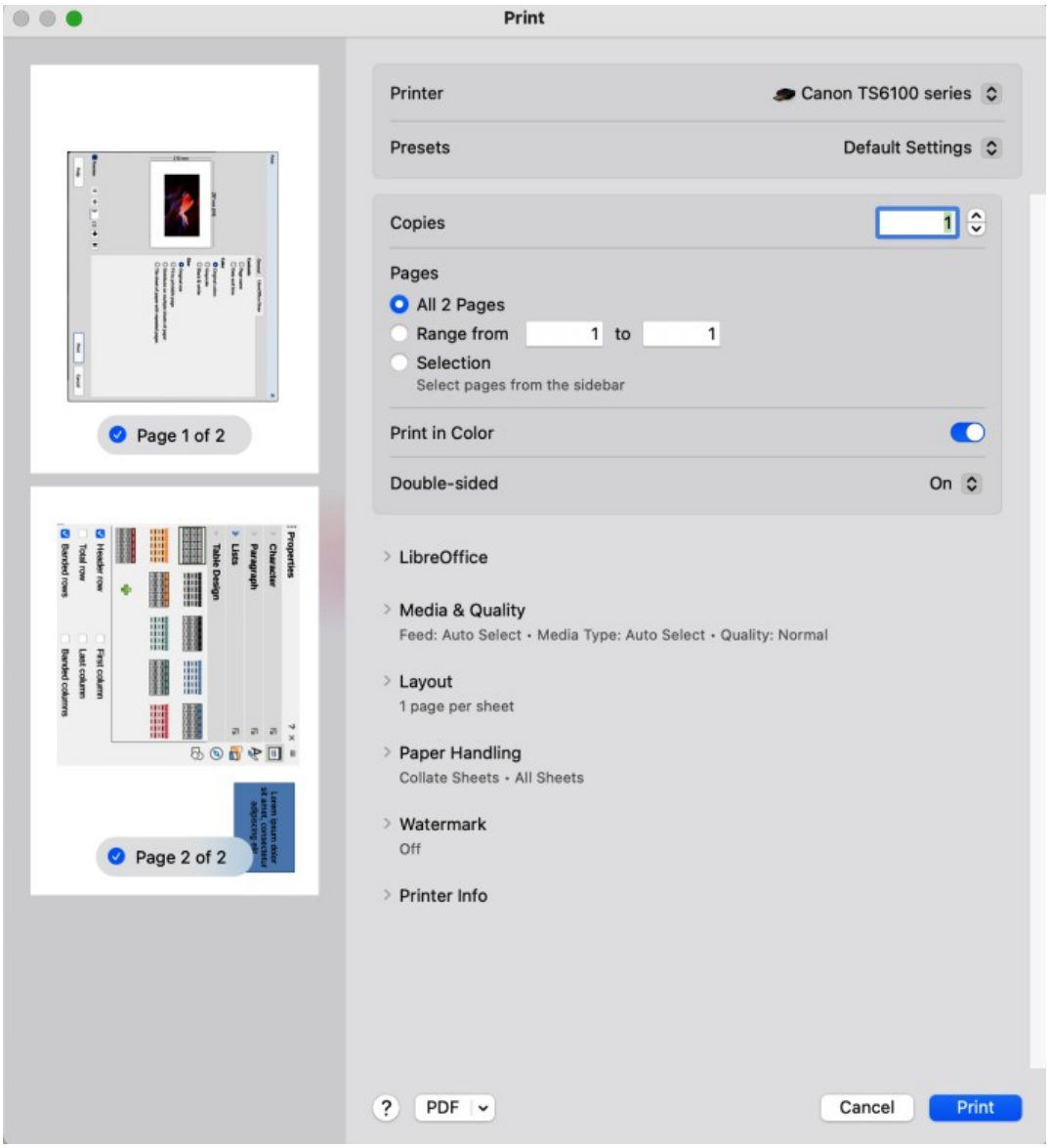

Figure 254: Example Print dialog — General page — macOS

Double-sided

Select this option to print the drawing double sided if the printer selected is capable of double sided printing.

On

When selected, prints the drawing pages double-sided using long edge binding.

On (Short)

When selected, prints the drawing pages double-sided using short edge binding.

LibreOffice options

LibreOffice Draw options

Click on **LibreOffice Draw** to open the printing options available for Draw (Figure 255).

Print selection only

Prints the selected pages in **Pages** pane.

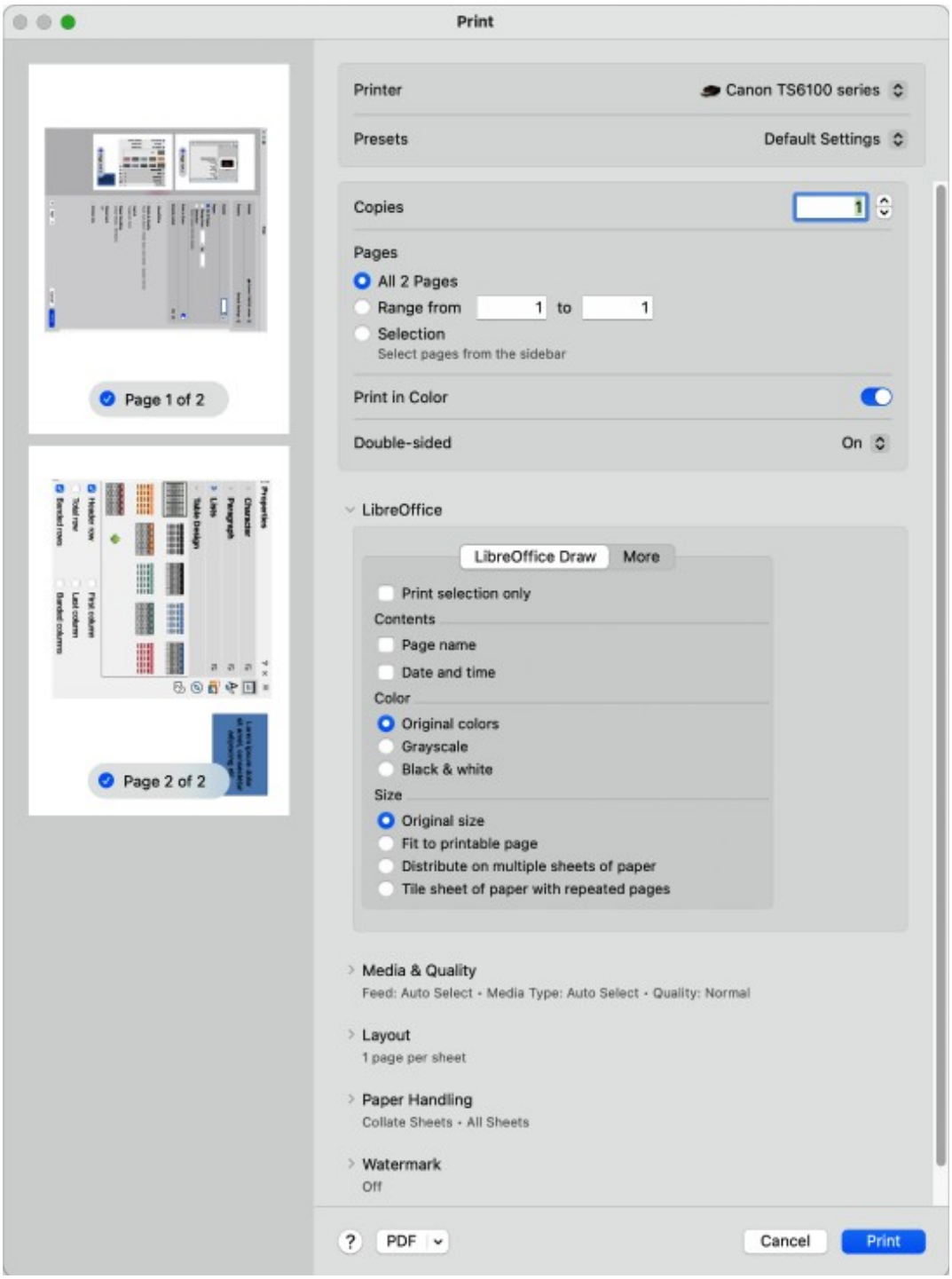

Figure 255: Example Print dialog — LibreOffice Draw page — macOS

Contents

Prints the *Page name* and/or *Date and time* on the drawing.

Color

Prints the drawing in *Original colors*, *Grayscale*, or *Black & white*.

Size

Prints the drawing using one of the following options:

Original size

Prints the drawing using its original size.

Fit to printable page

Drawing size is changed so that it fits on the paper size used for printing.

Distribute on multiple sheets of paper

Used if the drawing is too large for the paper size being used.

Tile sheet of paper with repeated pages

Used to print multiple copies of a drawing on a page.

More options

To access more printing options in Draw, click on **More** to open the **More** options page (Figure 256).

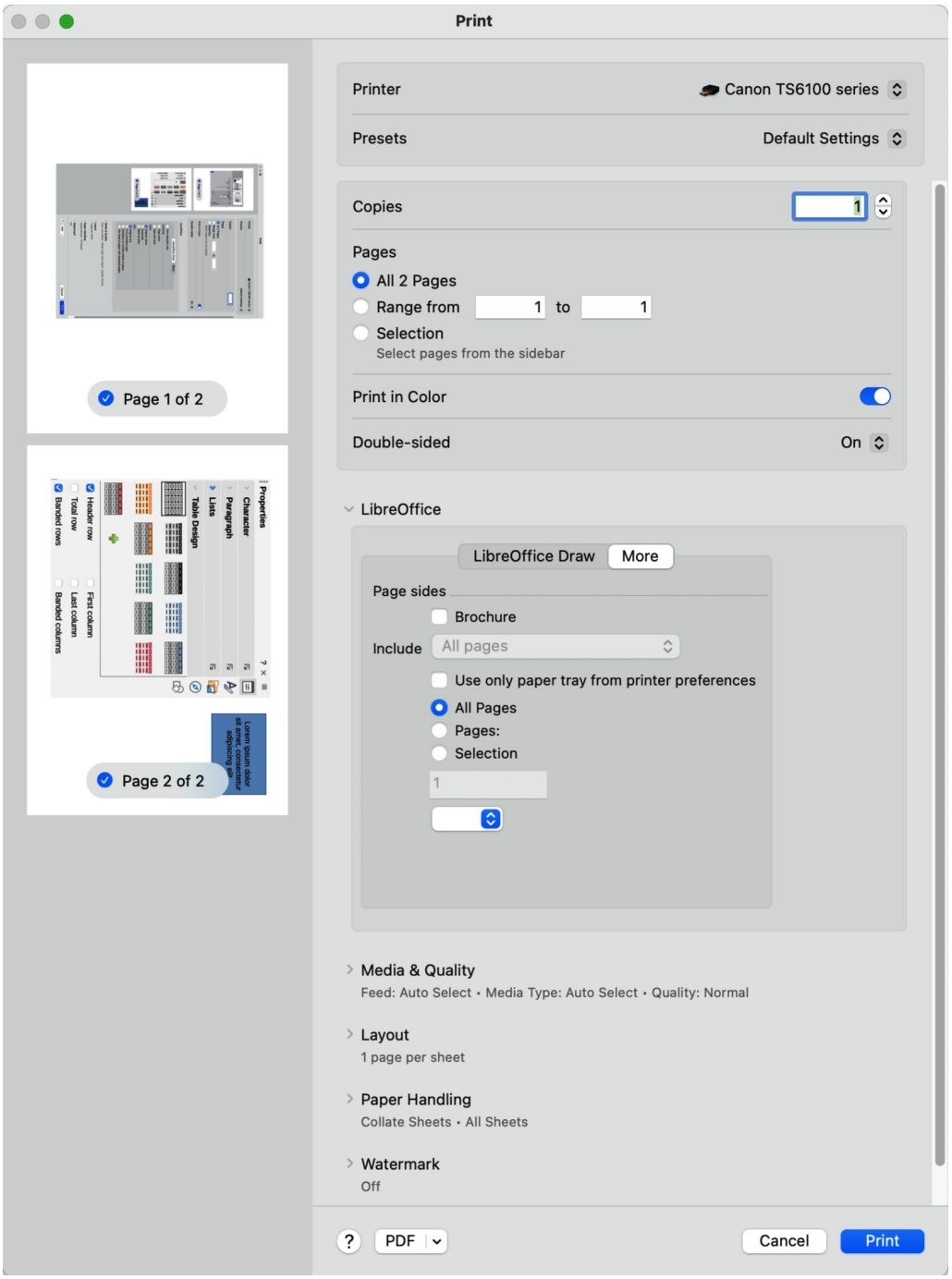

Figure 256: Example Print dialog — LibreOffice More page — macOS

Brochure

When selected, prints the document so the pages can be folded into a brochure or booklet.

Include

Select which pages to print from the drop-down list: *All pages*; *Front sides/right pages*; *Back sides/left pages*. Only available when **Brochure** is selected.

Use only paper tray from printer preferences

When selected, the printer tray selected on the printer overrides the selected tray in the printer properties on the computer.

All Pages

All the pages in the drawing are printed.

Pages

Enter the page number(s) in the text box that are to be printed. For multiple pages, use the format 1, 3, 7 or 1 — 5, 7, 9 for page number selection.

Selection

Prints the pages selected in the **Pages** pane.

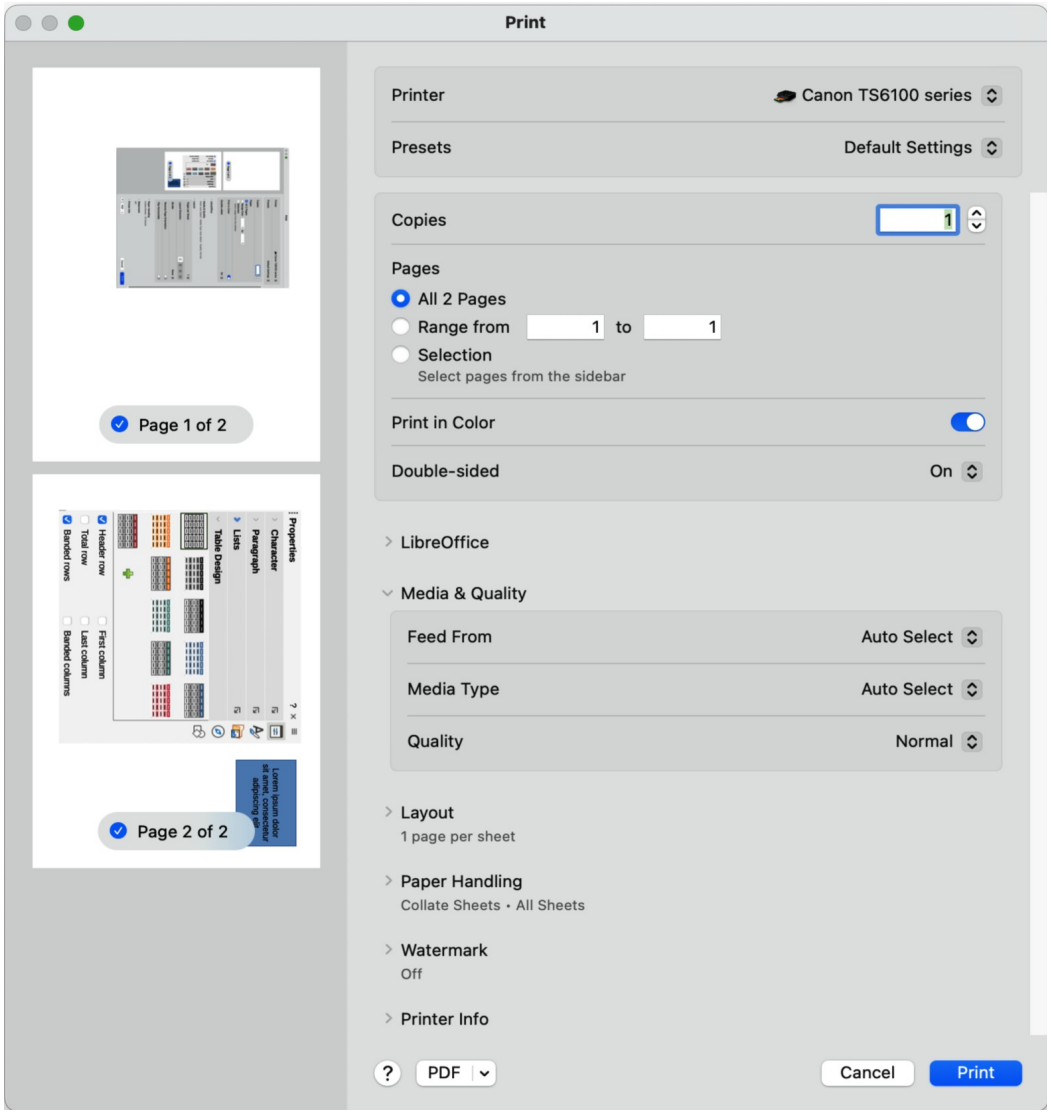

Figure 257: Example Print dialog — LibreOffice Media & Quality page — macOS

Media & Quality options

Click on **Media & Quality** to open a drop-list down with the following printing options (Figure 257).

Feed from

Select from the drop-down list the paper tray to use if the printer has more than one paper tray.

Media Type

Select from the drop-down list the paper type that has been loaded into the paper tray being used, for example *Envelope*, *Photo*, *Plain Paper*.

Quality

Select the level of printing quality required.

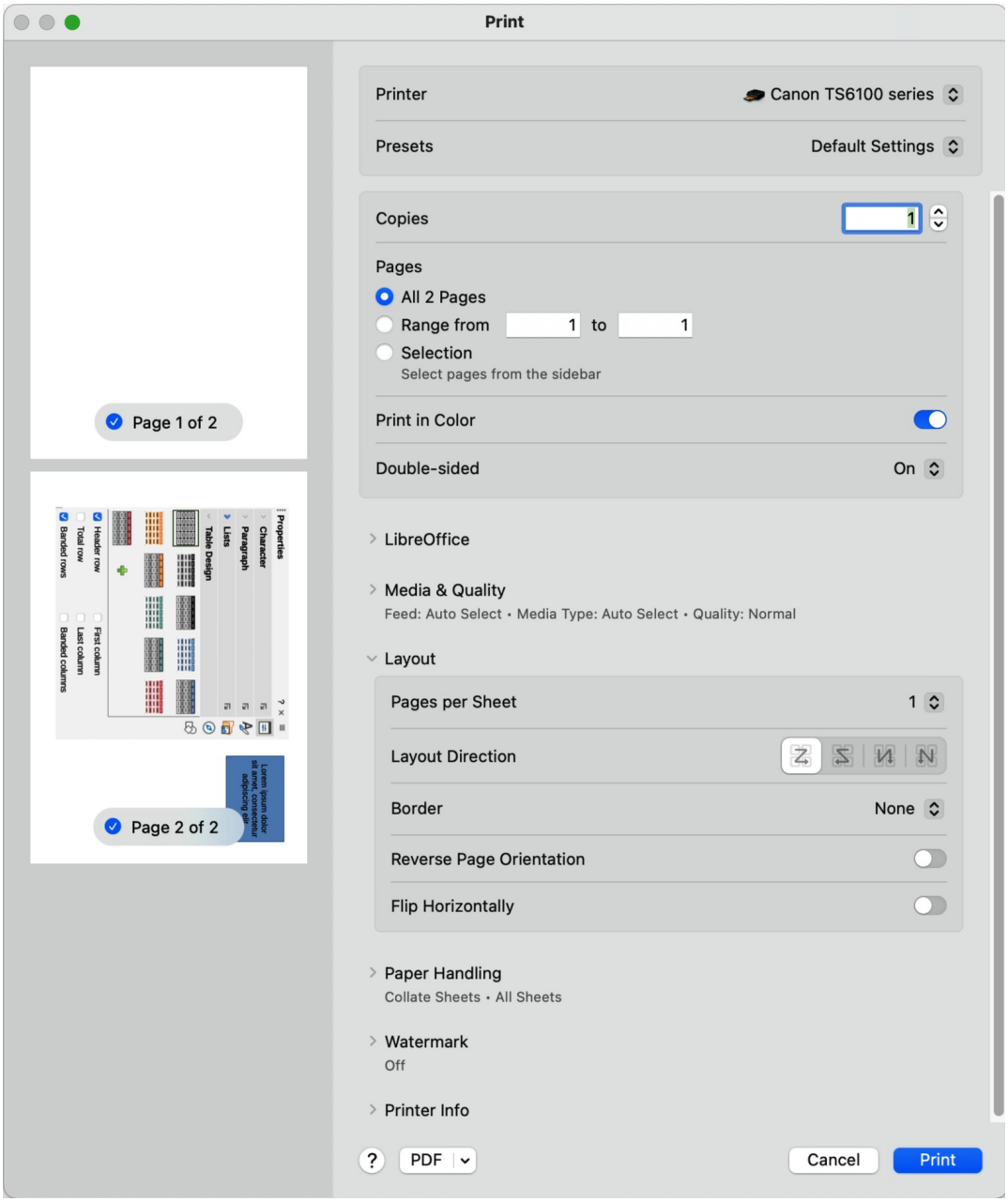

Figure 258: Example Print dialog — LibreOffice Layout page — macOS

Layout options

Click on **Layout** to open a drop-list down with the following options for the document printing layout (Figure 258).

Pages per sheet

Select from the drop-down list how many pages are printed on one sheet of paper.

Layout Direction

Select the printing order of multiple pages on one sheet of paper.

Border

When multiple pages are printed on one sheet of paper, a border is drawn around each page.

Reverse page orientation

If LibreOffice prints the pages in the wrong order, select this option and print the document again.

Flip horizontally

If LibreOffice prints the pages in the wrong orientation, select this option and print the document again.

Paper Handling options

Click on **Paper Handling** to open a drop-list with the following options when printing multiple page documents (Figure 259).

Collate Sheets

When selected collates multiple printed copies into separate documents.

Pages to Print

Select which pages in the document to print from the drop-down list: *All pages*; *Odd only*; *Even only*.

Page Order

Select the page printing order from the drop-down list: *Automatic*; *Normal*; *Reverse*.

Scale to fit paper size

Adjusts the printed page to fit the paper size.

Destination Paper Size

Select a paper size from the options available in the drop-down list. Only available if Scale to fit paper size has been selected.

Scale Down Only

Scales down the drawing to fit the page size. Only available if the selected page size is smaller than the drawing size.

Watermark options

Provides options to print watermark text on the drawing pages, for example Confidential if the document is of a sensitive nature.

Printer info options

Provides information about the printer being used, for example ink levels, printer name, and printer location.

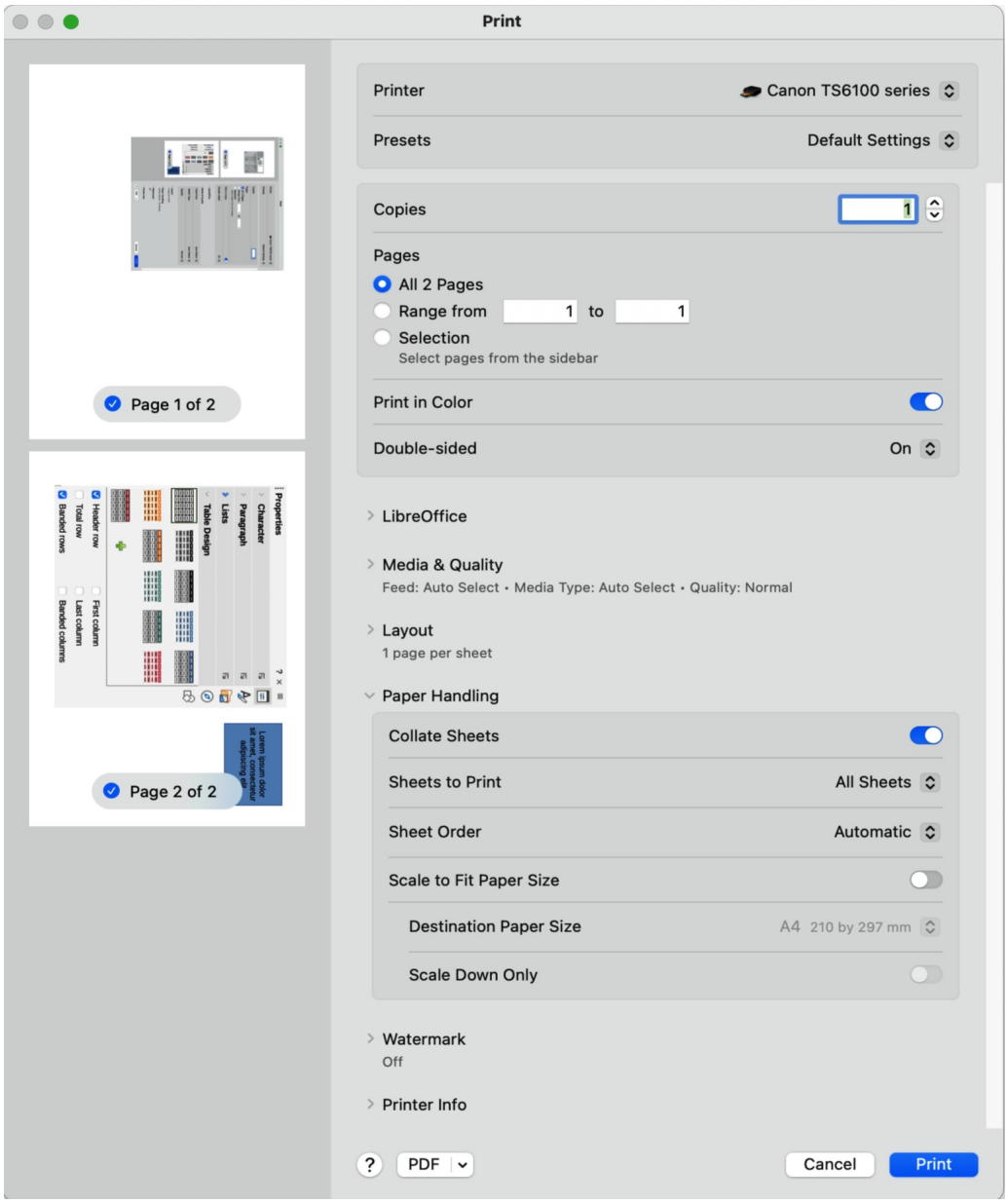

Figure 259: Example Print dialog — LibreOffice Paper Handling page — macOS

Printing examples

The following printing instructions are examples ONLY. Actual printing method may differ from these examples because printing depends on computer operating system, computer setup, and the connected printer. For more information on printing, see “Linux or Windows printing” on page 257, or “macOS printing” on page 260, and the *Writer Guide*.

Individual page

1) Open the Print dialog and select **General** to open the **General** page.
2) In **Printer**, Select the printer to use from the drop-down list if more than one printer is connected to the computer.
3) In **Ranges and Copies**, select *Pages* and enter the page number of the page to be printed.

4) In **Ranges and Copies**, enter how many copies to be printed in the *Number of copies* box.

5) Click **Print** to print the individual page and close the Print dialog.

All pages

1) Open the Print dialog and select **General** to open the **General** page.

2) In **Printer**, select the printer to use from the drop-down list if more than one printer is connected to the computer.

3) In **Ranges and Copies**, select All *Pages*.

4) In **Ranges and Copies**, enter how many copies to be printed in the *Number of copies* box.

5) Click **Print** to print all pages in the document and close the Print dialog.

Range of pages

1) Open the Print dialog and select **General** to open the **General** page.

2) In **Printer**, select the printer to use from the drop-down list if more than one printer is connected to the computer.

3) In **Ranges and Copies**, select *Pages* and enter the page numbers of the pages to print using the format, for example, 1,3,7 or 2–5,7,9.

4) In **Ranges and Copies**, enter how many copies to be printed in the *Number of copies* box.

5) Click **Print** to print the selected pages and close the Print dialog.

Selection printing

1) Select the pages in the **Pages** panel in LibreOffice Draw.

2) Open the Print dialog and select **General** to open the **General** page.

3) Select the printer to use from the drop-list if more than one printer is connected to the computer.

4) In **Ranges and Copies**, select *Selection* and then select *Odd and Even Pages*, *Even Pages*, or *Odd Pages* from the *Include* drop-down list.

5) In **Ranges and Copies**, enter how many copies to be printed in the *Number of copies* box.

6) Click **OK** to print the pages and close the Print dialog.

Multiple pages on a single sheet

1) Open the Print dialog and select **General** to open the **General** page.

2) In **Printer**, select the printer to use from the drop-down list if more than one printer is connected to the computer.

3) In **Page Layout**, select the number of pages to print per sheet of paper from the *Pages per sheet* drop-down list. The preview panel shows how the pages will look when printed on a page.

4) In **Page Layout**, select how the multiple pages are printed on a page from the *Order* drop-down list.

5) If necessary, select *Draw a border around each page* to distinguish each page printed on a sheet of paper.

6) In **Ranges and Copies**, enter how many copies to be printed in the *Number of copies* box.

7) Click **Print** to print the document and close the Print dialog.

Brochure printing

In LibreOffice Writer, Impress, and Draw, a document can be printed as a brochure, which is also known as booklet printing. The pages are arranged so that when the printed pages are folded in half, the pages are in the correct pagination order to form a brochure or booklet.

Tip

Plan a document so it looks professional when printed as a brochure. Choose appropriate margins, font sizes, and so on because pages are normally printed at half size on a sheet of paper. Experiment to get the best document format to match the capabilities of the printer being used.

Simplex printer

1) Open the Print dialog and select **General** to open the **General** page.

2) In **Printer**, select the printer to use from the drop-down list if more than one printer is connected to the computer.

3) In **Printer**, click on *Properties* to open the properties dialog for the selected printer.

4) In *Layout,* make sure the printer is set to the same orientation (portrait or landscape) as specified in the page setup for the document. Usually the orientation does not matter, but is important for brochures to create the correct page layout.

5) In *Paper Quality,* select the type of paper from the *Media* drop-down list.

6) If required, in *Color*, select either *Black & White* or *Color* printing option.

7) Click **OK** to close the properties dialog and return to the Print dialog.

8) In **Page Layout**, select *Brochure*.

9) In **Range and Copies**, select the following:

   d) In *Include*, select *Even pages*, or *Odd pages* from the drop-down list.

   e) In *Paper sides*, select *Print on one side (simplex)* from the drop-down list.

10) Click **Print** to print the even or odd pages.

11) Take the printed pages out of the printer and put back into the printer in the correct orientation to print on the blank side. This may require some testing to find out what the correct arrangement is for the selected printer.

12) If the *Even Pages* were printed, now select *Odd Pages* in *Include*. If *Odd Pages* were printed, now select *Even Pages* in *Include*.

13) Click **Print** to finish printing the document as a brochure and close the Print dialog.

14) Make sure the printed pages create a brochure when all the pages are placed in the correct order.

Duplex printer

1) Open the Print dialog and select **General** to open the **General** page.

2) In **Printer**, select the printer to use from the drop-down list if more than one printer is connected to the computer.

3) In **Printer**, click *Properties* to open the properties dialog for the selected printer.

4) Make sure the printer is set to the same orientation (portrait or landscape) as specified in the page setup for the document. Usually the orientation does not matter, but is important for brochures to create the correct page layout.

5) In *Paper Quality*, select the type of paper from the *Media* drop-down list.

6) If required, in *Color*, select either *Black & White* or *Color* printing option.

7) Click **OK** to close the properties dialog and return to the Print dialog.

8) In **Range and Copies**, select the *All Pages* option.

9) In **Range and Copies**, select one of the following options from the *Paper sides* drop-down list. Actual options available for duplex printing depend on the printer model and the computer system being used:

   – *Print on both sides (duplex long edge)*.

   – *Print on both sides (duplex short edge).*

10) In **Page Layout**, select the *Brochure* option.

11) Click **Print** to print the document as a brochure and close the Print dialog.

Black and white or grayscale printing

Printer settings

The following example procedure explains how to print documents in black and white or grayscale on a color printer:

1) Open the Print dialog and select **General** to open the **General** page.

2) Select the printer to use from the drop-down list if more than one printer is connected to the computer.

3) Click on **LibreOffice Draw** to open the printing options page for LibreOffice Draw.

4) In **Color**, select *Grayscale*, or *Black & white* from the available options.

5) Click **Print** to print the document and close the Print dialog.

Tips

Some color printers may only allow printing in color regardless of the settings selected. More details can be found in the information for the selected printer.

Grayscale is the best option for printing any colored text or graphics in a document on a monochrome printer. Colors printed in shades of gray give more detail. When printing color in black and white some of this detail is lost.

LibreOffice settings

Use the Print page in the Options LibreOffice Draw dialog to change the LibreOffice settings to print all colored text and graphics as grayscale, or black and white.

1) Go to **Tools > Options > LibreOffice Draw > Print** (macOS **LibreOffice > Preferences > LibreOffice Draw > Print**) on the Menu bar to open the Options LibreOffice Draw Print dialog (Figure 260).

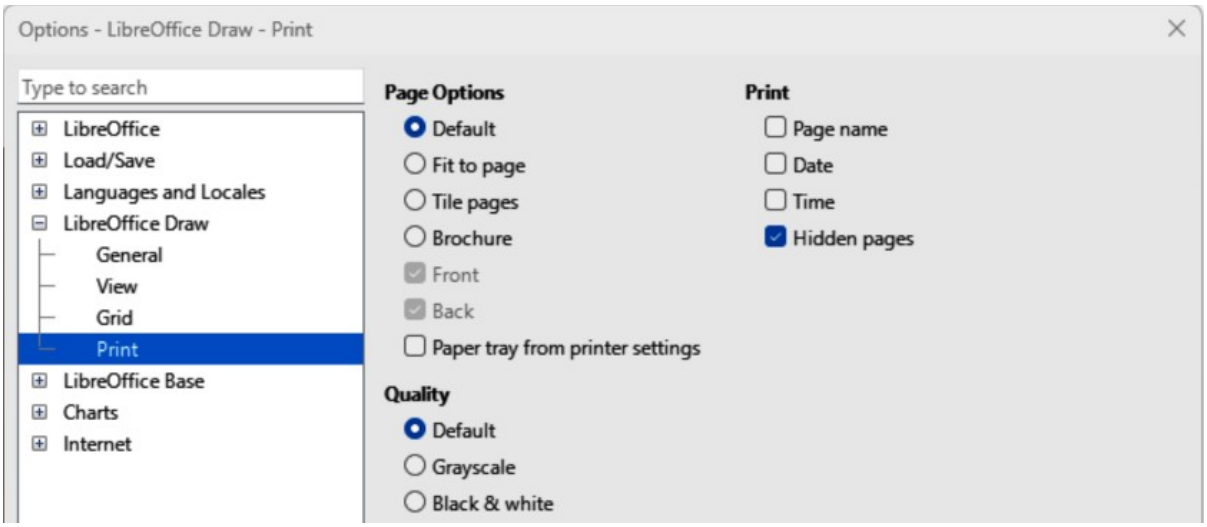

Figure 260: Options LibreOffice Draw Print dialog

2) In **Quality**, select either the option *Grayscale*, or *Black & white*.

3) Click **OK** to save the change and close the Options LibreOffice Draw Print dialog.

4) Print the document using one of the above procedures and the document is printed as grayscale, or black and white.

Exporting

PDF format

LibreOffice can export documents as a PDF (Portable Document Format) file. This standard file format is ideal for sending a file to be viewed on another computer using PDF viewing software.

Directly as PDF

Export the complete document using default PDF settings as follows:

1) Click on **Export Directly as PDF** on the Standard toolbar, or go to **File > Export As > Export Directly as PDF** on the Menu bar.

2) Enter a file name and location for the PDF file and click on **Save** to export the file as PDF.

Note

The page range, image compression, or other printing options are not available when creating a PDF file using **Directly as PDF**.

Controlling PDF content and quality

For more control over the content and quality when creating a PDF file, use the options available in the PDF Options dialog (Figure 261). For more information on available options, see the *Getting Started Guide*.

1) Go to **File > Export As > Export as PDF** on the Menu bar to open the PDF Options dialog.

2) Select the required options available in the various pages of the PDF Options dialog.

3) Click on **Export** and a file browser window opens.

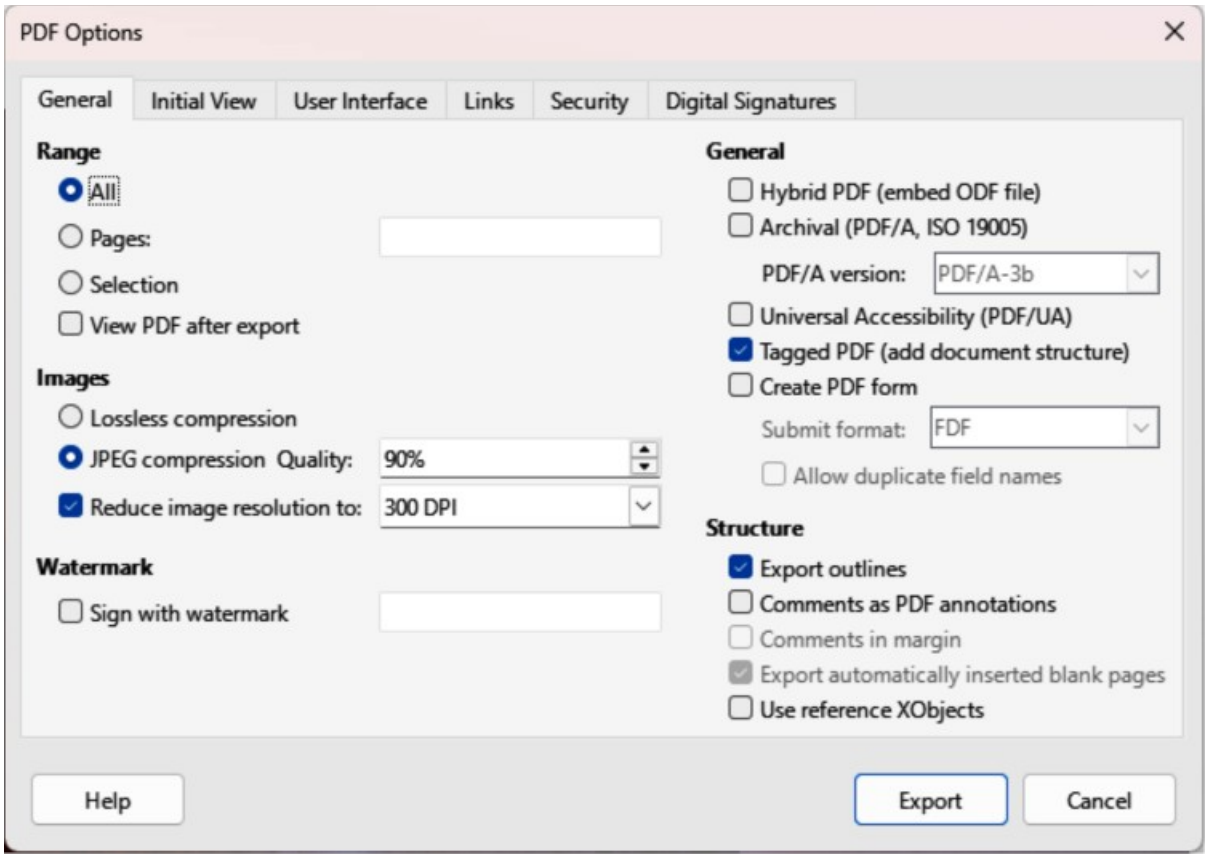

Figure 261: PDF Options dialog — General page

4) Navigate to the required location and enter a file name for the PDF being created.

5) Click on **Save** to export the file as PDF. The file browser window and the PDF Options dialog close.

Notes

When exporting in **Other formats**, a dialog may open providing options that can be selected when a LibreOffice Draw file is exported.

The content of the exported file depends on the elements selected on the drawing. If no elements are selected, the complete drawing file is exported.

Other formats

LibreOffice can export files in various formats, which are listed in the drop-down list of the file browser window. For more information on exporting graphics, see Chapter 6, Editing Pictures.

1) Go to **File > Export** on the Menu bar to open a file browser window.

2) Navigate to the directory where the drawing is going to be saved.

3) Specify a file name for the exported drawing in the **File name** text box.

4) Select the required file format from the **Save as type** drop-down list.

5) Click on **Save** or **Export** to save the file and close the file browser window.

Emailing documents

LibreOffice provides several ways to send documents quickly and easily as an email attachment in ODF format (LibreOffice default format), or as a PDF. For more information on emailing documents, see the *Getting Started Guide*.

Open Document format

1) Go to **File > Send > Email Document** on the Menu bar. LibreOffice opens the default email program with the document attached to a new email.
2) In the email program, enter the recipient, subject, and message, then send the email.

PDF format

1) Go to **File > Send > E-mail as PDF** on the Menu bar. and the PDF Options dialog opens.
2) Create a PDF file of the drawing using the options available in the PDF Options dialog, see “PDF format” on page 271 for more information. The default email application opens with the PDF file attached to a new email.
3) In the email application, enter the recipient, subject, and message, then send the email.

Digital signatures

A digital signature is a mathematical scheme for verifying the authenticity of digital versions of drawings or documents.

Signing a drawing digitally, a personal key or certificate is required. This personal key is stored on a computer is a combination of a private key and a public key. These keys are added to a drawing when a digital signature is applied. A certificate is obtained from a certification authority, which may be a private company or a government institution.

Applying a digital signature to a drawing, a checksum is computed from the drawing content plus the personal key being used. The checksum and public key are stored together with the drawing.

Opening the drawing on another computer with a recent version of LibreOffice, the program computes the checksum again and compares it with the stored checksum. If both checksums are the same, the program opens the original, unchanged drawing.

Also, the program can display the public key information from the certificate. This information is compared with the public key that is published on the web site of the certificate authority. Whenever the drawing is changed, this change breaks the digital signature.

For a more detailed description of how to obtain, use and manage a certificate and signature validation, see the *LibreOffice Getting Started Guide* and **Applying Digital Signatures** in LibreOffice Help (https://help.libreoffice.org/7.1/en-US/text/shared/guide/digitalsign_send.html?&DbPAR=WRITER&System=UNIX).

Removing personal data

Sometimes it is necessary to remove personal data, versions, notes, hidden information, or recorded changes from drawing files before files are distributed, or PDF version is created. Use the two following procedures to remove this type of data from a drawing file.

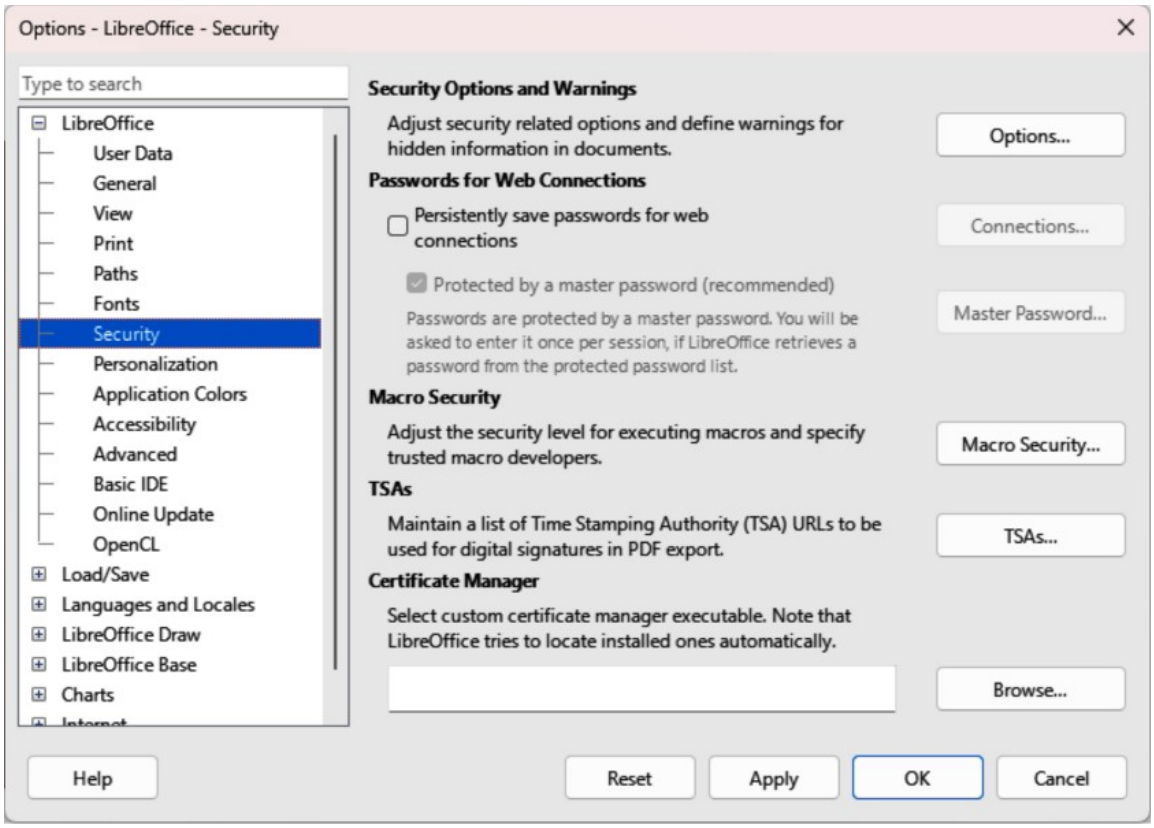

Figure 262: Options LibreOffice Security dialog

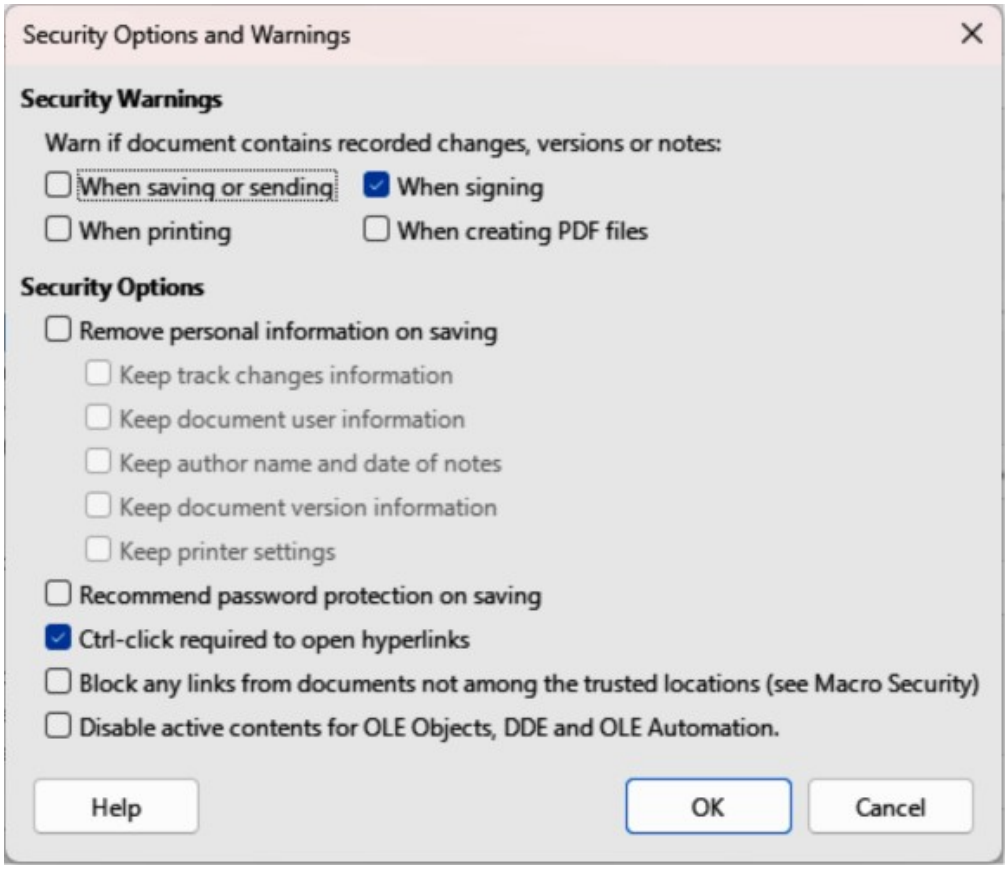

Figure 263: Security Options and Warnings dialog

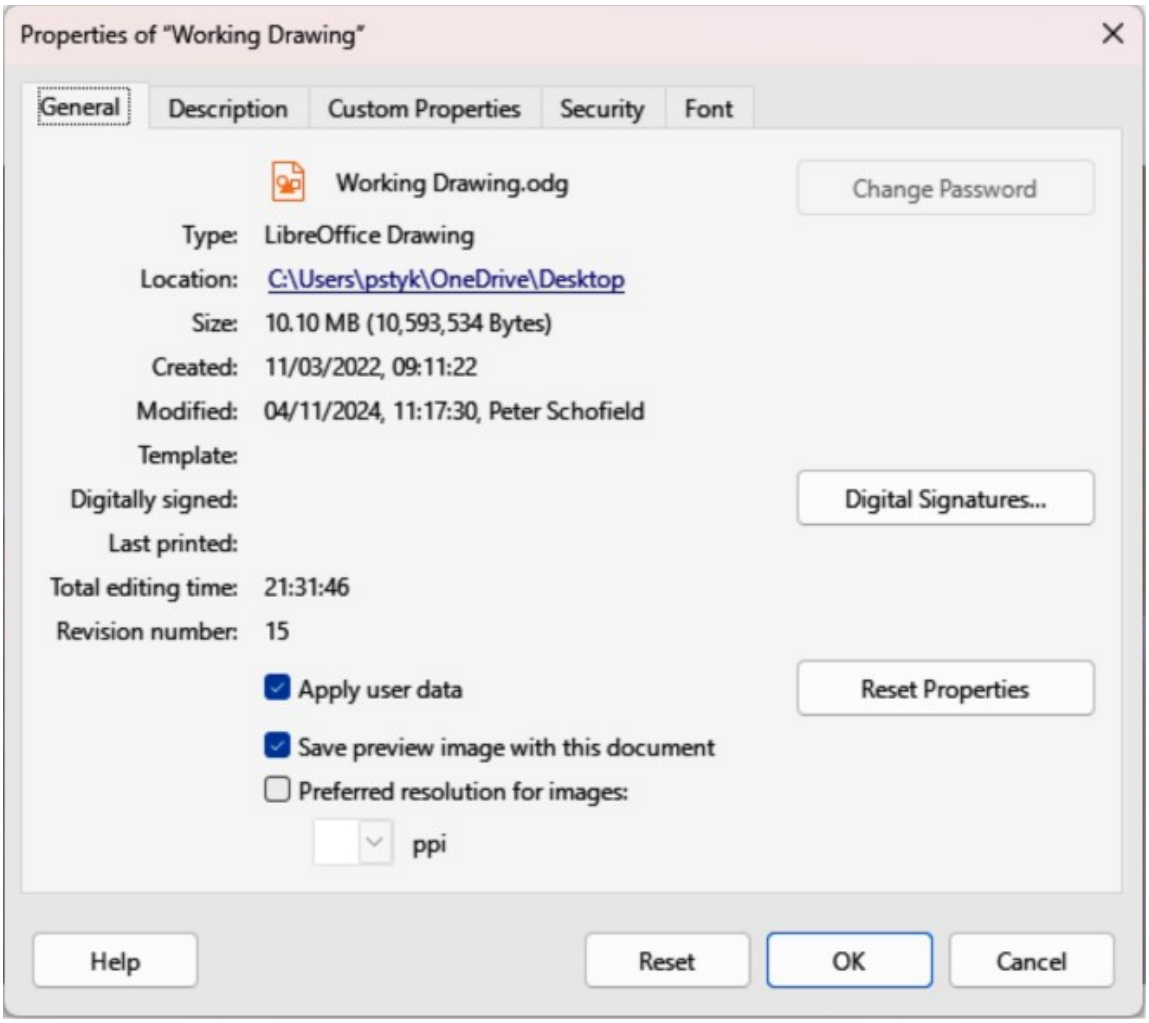

Figure 264: Properties dialog — General page

Setting security and warning options

1) Go to **Tools > Options > LibreOffice > Security** (macOS **LibreOffice > Preferences > LibreOffice > Security**) to open the Options LibreOffice Security dialog (Figure 262).
2) Click on **Options** to open the Security Options and Warnings dialog (Figure 263).
3) Select the required options to allow LibreOffice to warn when drawing files contain sensitive information and/or automatically remove personal information on saving.
4) Click **OK** to close the Security Options and Warnings dialog and save the selected options.
5) Click **OK** to close the Options LibreOffice Security dialog.

Removing personal data and drawing file information

1) Open a drawing file and go to **File > Properties** on the Menu bar to open the Properties dialog (Figure 264).
2) In the **General** page, deselect the option *Apply user data*.
3) Click on **Reset Properties** to change the following file properties:
   – Remove any information in the created and modified fields.
   – Delete modification and printing dates.

- Reset editing time to zero.
- Reset creation date to the current date and time.
- Reset version number to 1.

4) Click **OK** to save the changes and close the Properties dialog.

Removing version information

To remove version information from a drawing file, use one of the following methods:

1) Go to **File > Versions** on the Menu bar to open a properties dialog for the drawing file.
2) Select the versions in the **Existing Versions** list for deletion and click **Delete**. The dialog automatically closes.
3) Go to **File > Save As** on the Menu bar and save the drawing file using a different name.

Redaction

Documents are redacted to remove or hide any sensitive information. Redaction allows the selective disclosure of information in a document while keeping other parts of the document secret.

When a redacted document is exported as a new document, any redacted portions are removed and replaced by redaction blocks of pixels preventing any attempt to restore or copy the original contents. A redacted document is often exported in PDF format for publication, or sharing.

Any documents that are redacted in Writer, Calc, or Impress are automatically transferred as a copy to Draw for redaction.

Note

When a redacted document is exported as a new PDF file, all information in the redacted areas is removed and replaced by redaction blocks of pixels. The redacted areas prevent any attempt to restore, or copy the original contents.

Documents, spreadsheets, or presentations

1) Open the document to be redacted in Writer, Calc or Impress, then go to **Tools > Redact** on the Menu bar and the following happens:
   - The document is copied, prepared and transferred to Draw as an untitled file.
   - Draw opens with the untitled document displayed.
   - Redaction toolbar (Figure 265) automatically opens. If the Redaction toolbar is not displayed, go to **View > Toolbars** on the Menu bar and select **Redaction**.
2) Go to **Tools > Redact** on the Menu bar and select either **Rectangle** or **Freeform**, or click on **Rectangle Redaction** or **Freeform Redaction** in the Redaction toolbar.
3) Draw the required shapes to redact the document sensitive areas. The redaction shape is gray allowing the sensitive areas in the document to be visible before redaction.
4) Click on **Export Preview PDF** to create a PDF copy of the document and save as a PDF file. Review the sensitive information in the gray redacted areas before redaction is finalized.
5) Delete the preview PDF copy after reviewing the redaction areas in the file.

Figure 265: Redaction toolbar

6) Go to **Tools > Redact** on the Menu bar and use one of the following options in the Redaction toolbar:
   – Select either **Redacted Export (White)**, or **Redacted Export (Black)** option.
   – Click on **Redacted Export (White)**, or **Redacted Export (Black)** icon.
7) Navigate to the folder in the file browser window that opens where the redact document is to be saved and enter a name for the document.
8) Click on **Save** to create the redacted PDF file and the following happens:
   – Gray redaction areas are converted to white, or black and the document is exported as a PDF
   – There is no selectable text in the PDF file and any redacted content is non-existent.

Drawings

Open a drawing file in in Draw and follow Steps 2) thru 8) in “Documents, spreadsheets, or presentations” on page 276 to create a redacted PDF copy of the drawing file.

Draw Guide 24.8

Chapter 11, Advanced Draw Techniques

Drawing pages

Pages pane

Drawings created in Draw can consist of multiple pages and stored as one file on a computer. The pages in a drawing are displayed as thumbnails in the **Pages** pane. Drawing pages can be added, renamed, deleted, and arranged in a sequence using the **Pages** pane.

By default the **Pages** pane (Figure 266) appears docked on the left of the **Workspace**. If the **Pages** pane is not visible, go to **View > Page Pane** on the Menu bar. The **Pages** pane can become a floating window using one of the following methods:

- **Windows and Linux only** — press and hold the *Ctrl* key, then double-click in the title bar of the **Pages** pane to create a floating window.
- **macOS only** — press and hold the ⌘ key, then double-click in the title bar of the **Pages** pane to create a floating window.
- **Windows, Linux and macOS** — click in the title bar and drag the **Pages** pane to create a floating window.

To close the **Pages** pane, click on the **X** on the right side of the title bar, or deselect **View > Page Pane** in the Menu bar.

Selecting pages

To make a page appear in the **Workspace**, select a page using one of the following methods:

- Select a page in the **Pages** pane.

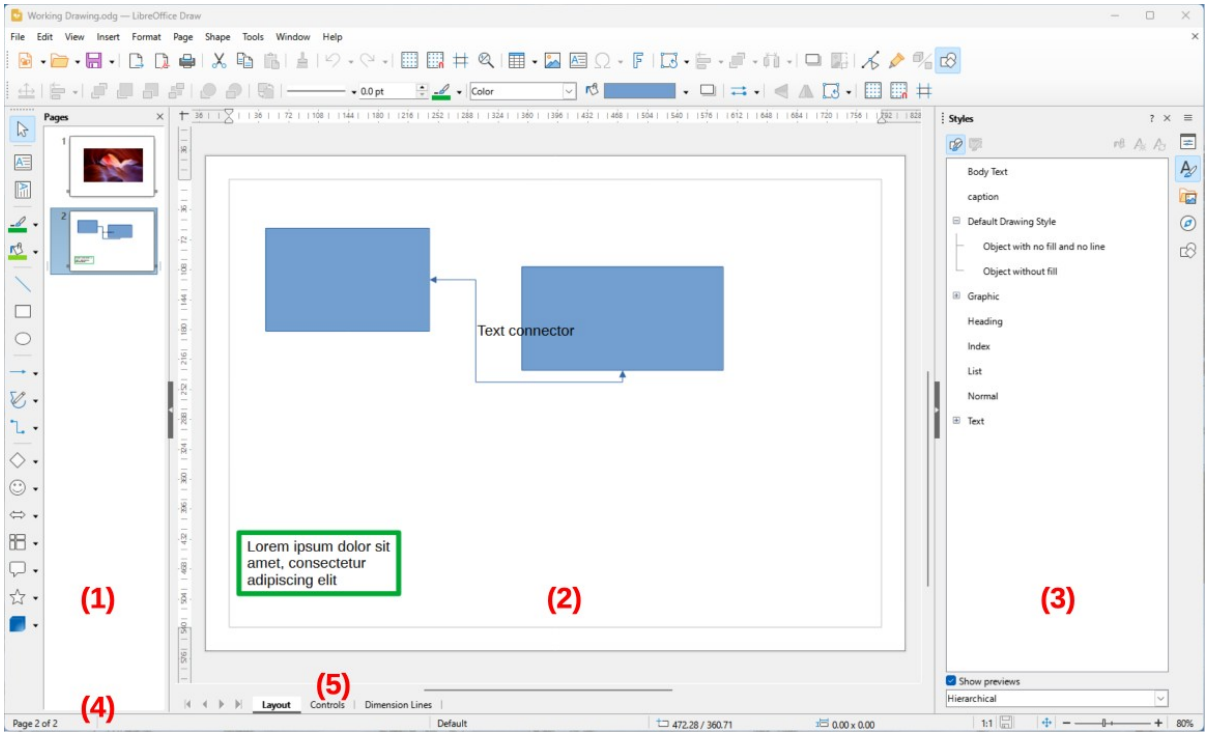

Figure 266: Draw main window

(1) Pages pane
(2) Workspace
(3) Sidebar
(4) Status bar
(5) Layers bar

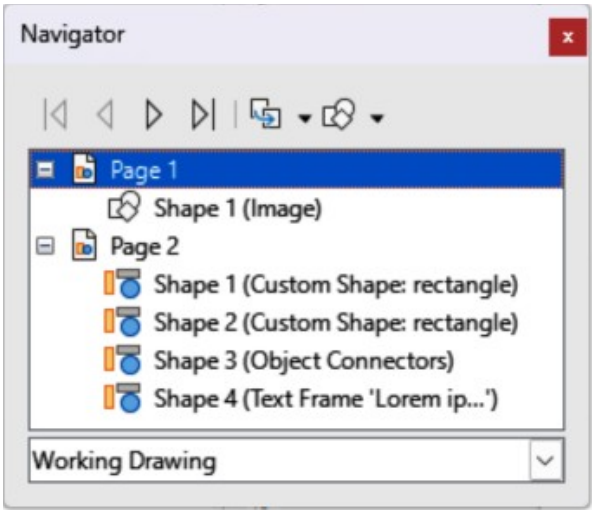

Figure 267: Navigator dialog

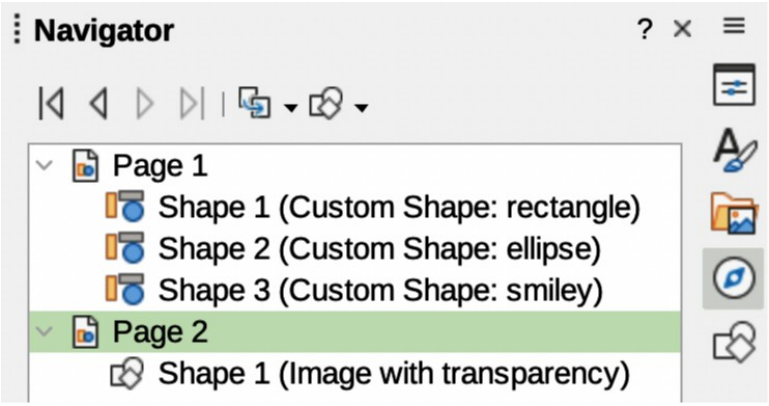

Figure 268: Navigator deck in Sidebar

- Use the keyboard shortcut *F5*, or go to **View > Navigator** on the Menu bar to open the Navigator dialog (Figure 267) and select a page from the displayed list.
- Click on **Navigator** in the Sidebar to open the Navigator deck in the Sidebar (Figure 268) and select a page from the displayed list.

Navigating pages

To navigate a multi-page drawing and select a page for editing, use one of the following methods:

- Select the required page in the **Pages** pane.
- Select the required page in the Navigator dialog (Figure 267), or the Navigator deck in the Sidebar (Figure 268).
- Go to **Page > Navigate** on the Menu bar and select one of the following options:
  - **To First Page** — moves to the first page in the drawing.
  - **To Previous Page** — moves backward to the previous page.
  - **To Next Page** — moves forward to the next page.
  - **To Last Page** — moves to the last page in the drawing.
  - **Go to Page** — enter the page number in the text box and press the *Enter* key to move to the selected page.

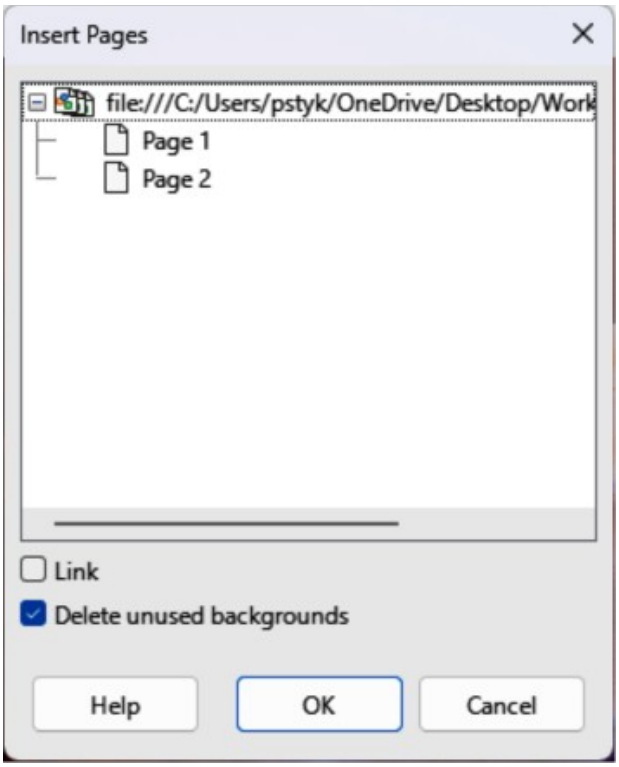

Figure 269: Insert Pages dialog

Adding pages

Inserting new page

Insert a new page into a drawing using one of the following methods. A new page is added after the selected page in the **Pages** pane, or at the end of the pages if no page is selected.

- Go to **Page > New** Page on the Menu bar.
- Right-click in the **Pages** pane and select **New Page** from the context menu.
- Right-click on the page displayed in the **Workspace** and select **Page > New Page** from the context menu.
- Go to **Page > Insert Page from File** on the Menu bar and open the Insert File dialog. Navigate to the folder where the file is located. Select the file and click on **Open** to open the Insert Pages dialog (Figure 269). Select the required pages and click **OK**.

Duplicating pages

Select a page in the **Pages** pane, then use one of the following methods to insert the duplicate page after the selected page:

- Go to **Page > Duplicate Page** on the Menu bar.
- Right-click on a page in the **Pages** pane and select **Copy** from the context menu. Right-click in a blank area of the **Pages** pane and select **Paste** from the context menu.

Renaming pages

When pages are inserted into a drawing, they are automatically named as Page 1, Page 2, and so on in the **Pages** pane, Navigator dialog, or Navigator deck in the Sidebar. As the page order is changed, pages are automatically renumbered making it difficult to identify the pages.

It is recommended to give each page a memorable name to identify pages as follows:

1) Select a page for renaming in the **Pages** pane.
2) Use one of the following methods and rename the selected page:
   - Go to **Page** on the Menu bar and select **Rename Page** from the submenu.
   - Right-click on the selected page in the **Pages** pane and select **Rename Page** from the context menu.
   - Right-click on the page displayed in the **Workspace** and select **Page > Rename Page** from the context menu.
3) In the Rename Page dialog that opens, enter a new name for the page and click **OK**.

Changing page order

Use one of the following methods and change the page order in a drawing:

- Select a page thumbnail in the **Pages** pane, then click and drag the page thumbnail to change the page order.
- Select a page thumbnail in the **Pages** pane, then go to **Page > Move** on the Menu bar and select one of the following options:
  - **Page to Start** — moves the selected page to the beginning of a drawing.
  - **Page Up** — moves selected page up one place in the page order of a drawing.
  - **Page Down** — moves selected page down one place in the page order of a drawing.
  - **Page to End** — moves selected page to the end of a drawing.

Deleting pages

1) Select a page for deletion in the **Pages** pane.
2) Use one of the following methods to delete the selected page:
   - Go to **Page > Delete Page** on the Menu bar.
   - Right-click on the selected page in the **Pages** pane and select **Delete Page** from the context menu.
   - Right-click on the page displayed in the Workspace and select **Page > Delete Page** from the context menu.

Note

When deleting pages in a drawing, there is no confirmation of deletion for the selected page.

Master pages

A master page is a page used as a starting point for all drawing pages to control basic formatting of pages based on a master page. It is similar to a page style in Writer, or master slide in Impress. A drawing with multiple pages can have more than one master page allowing a different look assigned to individual pages in a drawing, for example title page, contents page, and drawing pages.

Figure 270: Master View toolbar

Master pages have a defined set of characteristics. For example, background objects (such as logos, decorative lines), text formatting, blocks of standard text, and fields such as page numbering, date, or filename.

Master page view

Go to **View > Master** on the Menu bar and open the master page view. This also opens the Master View toolbar (Figure 270). If this toolbar does not open, go to **View > Toolbars > Master View** on the Menu bar. To return to normal page mode, click on **Close Master View** in the Master View toolbar, or go to **View > Normal** on the Menu bar.

Creating master pages

Each drawing created uses the default master page. When a drawing has multiple pages, master pages can be created and added to the drawing as follows:

1) Go to **View > Master** on the Menu bar to open the master page view and the Master View toolbar.
2) Create a new master page using one of the following methods. After creation, the new master page is automatically selected.
   – Click on **New Master** in the Master View toolbar (Figure 270).
   – Go to **Page > New Master** on the Menu bar.
3) Add the required graphic objects, logos, fields, text and so on to the selected master page, then save the drawing.
4) Assign the new master page to a drawing page. See “Changing master pages” on page 285 for more information.
5) Rename the master page, see “Renaming master pages” on page 284.

Renaming master pages

Each new master page created has the default name of Default 1, Default 2, and so on. It is recommended to rename new master pages. The default master page that was created when the drawing was created can also be renamed.

1) Go to **View > Master** on the Menu bar to open the master page view and the Master View toolbar.
2) Use one of the following methods and open the Rename Master Slide dialog:
   – Click on **Rename Master** in the Master View toolbar (Figure 270).
   – Right-click on a master page in the **Pages** pane and select **Rename Master** from the context menu.
3) Enter a name for the master page in the **Name** text box in the Rename Master dialog.
4) Click **OK** to save the changes and close the Rename Master Slide dialog.

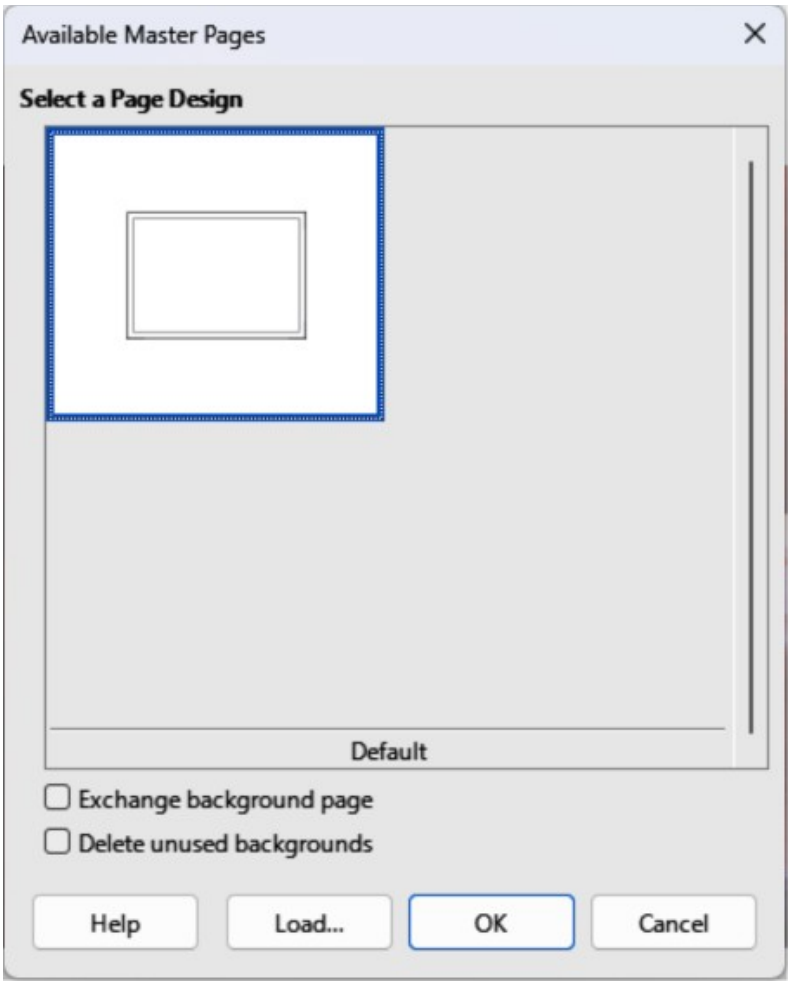

Figure 271: Available Master Pages dialog

Changing master pages

When a drawing uses several master pages, each page in the drawing can use a different master page.

1) Go to **View > Normal** on the Menu bar.
2) In the **Pages** pane, select the page to change the master page.
3) Right-click on the page in the Workspace and select **Change Master Page** from the context menu to open the Available Master Pages dialog (Figure 271).
4) In the **Select a Page Design** preview box, select a master page design for the selected page.
5) If necessary, select **Exchange background page** to use the selected master page for all pages in the drawing.
6) If necessary, select **Delete unused backgrounds** to delete any master pages shown in **Select a Page Design** preview box that have not been assigned to a page.
7) Click **OK** to change the selected master page and close the Available Master Pages dialog.

Deleting master pages

Deleting master pages is only available when there is more than one master page in a drawing.

1) Go to **View > Master** on the Menu bar to open the master page view and the Master View toolbar (Figure 270 on page 284).
2) Use one of the following methods to delete a master page. The deletion of the master page is immediate and there is no confirmation
   - Select and right-click on a master page in the **Pages** pane and select **Delete Master** from the context menu.
   - Click on **Delete Master** in the Master View toolbar.
   - Go to **Page > Delete Master** on the Menu bar.

Note

The default master page created when the drawing was first created cannot be deleted. Also, if the drawing only uses one named master page, then that named master page cannot be deleted.

Master pages from templates

Master pages from templates available in LibreOffice can be used for drawings. If the master pages from a template use a different page size, the master pages loaded into a drawing are adapted to the drawing page size. This may cause some objects to be stretched, or incorrectly positioned when adapted to fit the drawing page size.

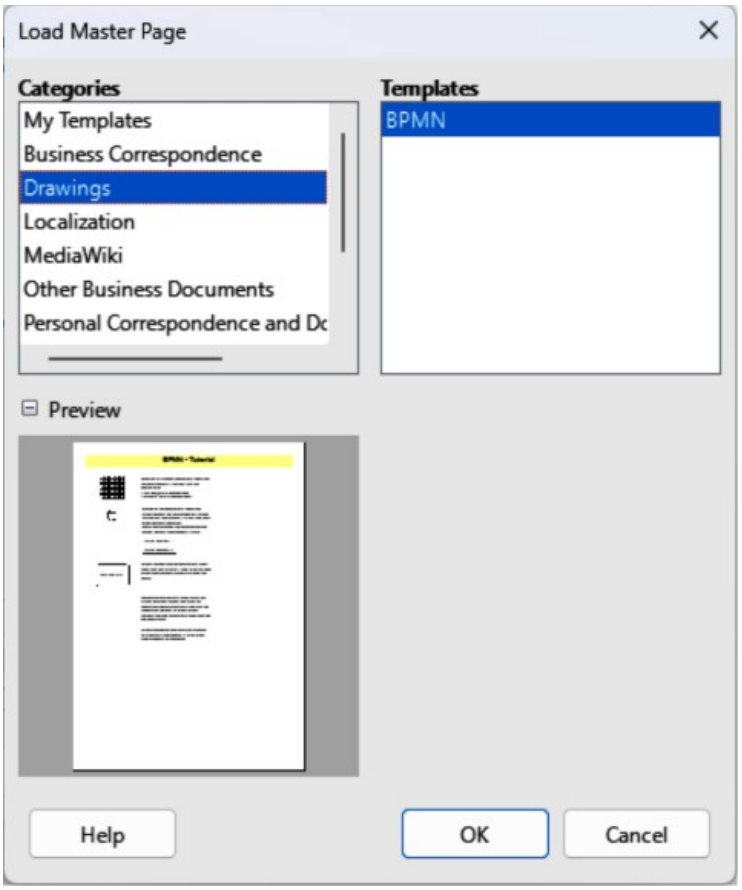

Figure 272: Load Master Page dialog

1) Go to **View > Master** on the Menu bar to open the master page view and the Master View toolbar.
2) Right-click on a master page displayed in the drawing and select **Change Master Slide** from the context menu to open the Available Master Pages dialog (Figure 271 on page 285).
3) Click on **Load…** to open the Load Master Page dialog (Figure 272).
4) Select a template category from the list displayed in **Categories**.
5) Select a template from the list displayed in **Templates**.
6) If necessary, click on **Preview** to display a preview of the selected template.
7) Click **OK** to close the Load Master Slide dialog. The Available Master Slides dialog opens displaying the selected template in **Select a Slide Design**.
8) Select the master page required in **Select a Slide Design**.
9) If necessary, select **Exchange background page** to use the selected master page for all pages in the drawing.
10) If necessary, select **Delete unused backgrounds** to delete any master pages shown in **Select a Slide Design** that have not been assigned to a page.
11) Click **OK** to assign the selected master page to a drawing page and close the Available Master Slides dialog.

Inserting fields

1) Go to **View > Master** on the Menu bar to open the master page view and the Master View toolbar.
2) Go to **Insert > Field** on the Menu bar and select a field type from the options available on the submenu. The selected field appears in the middle of the drawing page.
3) Select the inserted field so that the border is displayed.
4) Click on the border and drag the field to the required position.
5) If necessary, format the text used in the field to the drawing requirements. For more information, see Chapter 9, Adding and Formatting Text.

The field types that are available for insertion as follows:

Date (fixed)

Inserts the current date into the master page as a fixed field. The date is not automatically updated.

Date (variable)

Inserts the current date into the master page as a variable field. The date is automatically updated each time the file is opened.

Time (fixed)

Inserts the current time into the master page as a fixed field. The time is not automatically updated.

Time (variable)

Inserts the current time into the master page as a variable field. The time is automatically updated each time the file is opened.

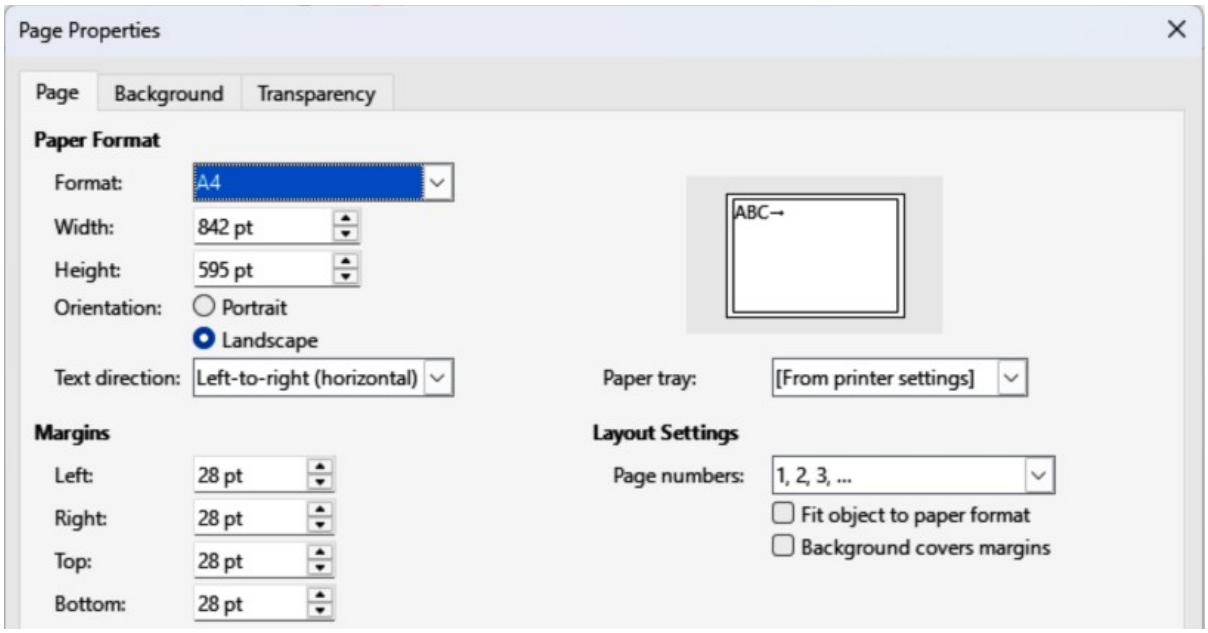

Figure 273: Page Properties dialog — Page page

Author

Inserts the first and last names listed in the LibreOffice user data into the active page. Go to **Tools > Options > LibreOffice > User Data** (macOS **LibreOffice > Preferences > LibreOffice > User Data**) on the Menu bar to enter user data details.

Page Number

Inserts the page number into every page of the drawing. To change the number format, go to **Page > Page Properties** on the Menu bar to open the Page Properties dialog (Figure 273). Click on the **Page** tab and select a number format from the drop-down list in **Layout Settings**.

Page Title

Inserts the page title. A page title is created in **Normal** view by going to **Page > Rename Page** on the Menu bar and entering a title in the **Name** text box in the Rename Page dialog that opens. For more information, see “Renaming pages” on page 282.

Page Count

Inserts the total number of pages in a drawing.

File Name

Inserts the name of the active file. The name only appears after the file has been saved.

Templates

A drawing template is used as the starting point for all new drawings. For example, a template can include a company logo, name and information on the first page of a drawing with the remaining pages in a drawing only showing the company logo and name. Templates can contain anything that regular drawings can contain, such as text, graphics, a set of styles, and so on.

All document types created using LibreOffice are based on templates. If a template is not specified when a new document is started, then the default template for that type of document is used. This default template uses a set of properties that are hard coded into LibreOffice. If necessary, the default template for drawings, which is hard coded into LibreOffice, can be changed. See “Default template” on page 291 for more information. For more information on templates and obtaining templates from other sources, see the *Getting Started Guide*.

The only template available in Draw is the default template and no predefined drawing templates are installed with LibreOffice. However, templates can be created using methods described in the following sections. Drawing templates can also be installed from other sources, see "Importing templates" on page 296 for more information.

Creating templates

Using Save As Template dialog

1) Open a drawing to use as a basis for a template, or open and edit a template to use as a basis for a new template.
2) Add any extra content and styles, or edit the content and styles to the template requirements.
3) Use one of the following methods to open the Save As Template dialog (Figure 274):
   – Go to **File > Templates > Save As Template** on the Menu bar.
   – Click on the triangle ▼ to the right of **Save** on the Standard toolbar and select **Save as Template** from the drop-down menu.
4) Enter a name for the template in the **Enter Template Name** text box.
5) Select a template category from the list available in the **Select Template Category** box.
6) If the new template is to be used as the default template in LibreOffice Draw, select the option **Set as default template**.
7) Click on **Save** to save the template and close the Save As Template dialog.

Using Save As command

1) Go to **File > Save As** on the Menu bar, or use the keyboard shortcut *Shift+Ctrl+S* (macOS ⌘+*Ctrl+S*) to open the Save as dialog.

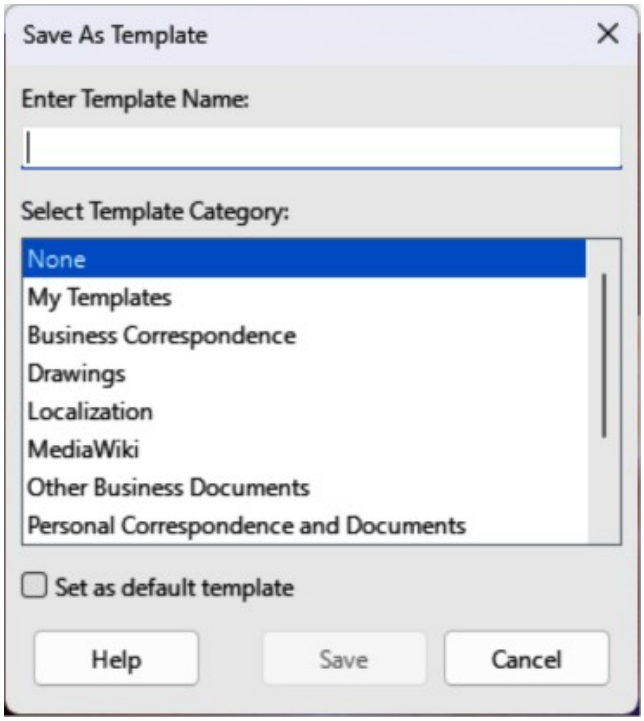

Figure 274: Save As Template dialog

2) Navigate to the LibreOffice templates folder. Actual location of the LibreOffice template folder depends on the computer system and setup.

3) Enter a filename using the extension `OTG` in the Name box.

4) From the drop-down list, select *ODF Drawing Template (.otg)* as the file type.

5) Click on **Save** to save the template and close the dialog.

Note

When saving a drawing as a template, the template must be saved in the LibreOffice templates folder for the template to be recognized and located by the LibreOffice Template Manager. See “Template folder location” on page 294 for more information.

Creating drawings from templates

Start Center

Open LibreOffice and create a new drawing from a template displayed in the **Start Center** using one of the following methods:

- Click on **Templates** in the Start Center to open a display of available templates for all LibreOffice applications. Click on the required template and a new document opens using the relevant LibreOffice module for the template.
- Click on the triangle ▼ to the right of **Templates** in the **Start Center**, then select **Draw Templates** to display Draw templates. Click on the required template and a new drawing opens using Draw.

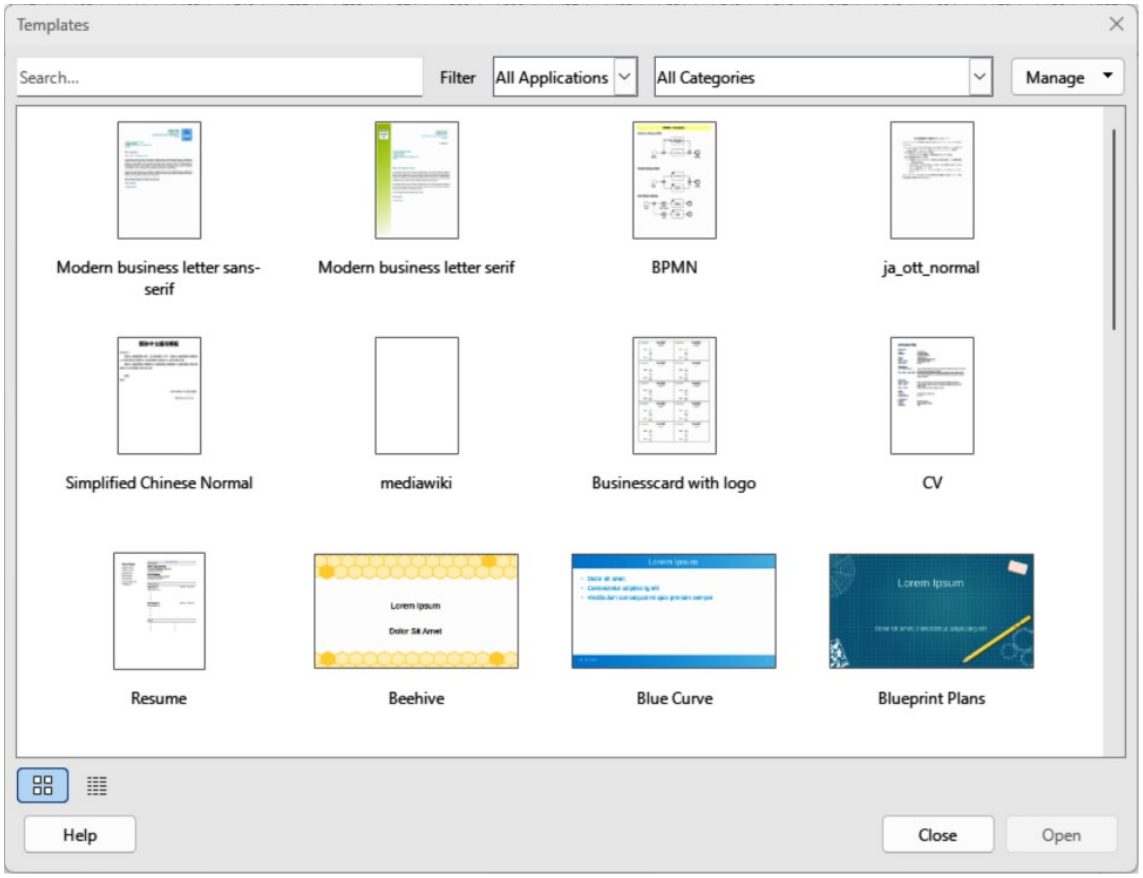

Figure 275: Templates dialog

Templates dialog

1) Use one of the following methods to open the Templates dialog (Figure 275):

- Go to **File > New > Templates** on the Menu bar.
  - Go to **File > Templates > Manage Templates** on the Menu bar.
  - Use the keyboard short cut *Ctrl*+*Shift*+*N* (macOS ⌘+*Shift*+*N*).

2) Select *Drawings* from the **Filter** drop-down list.

3) Select a category from the options available in the **All Categories** drop-down list.

4) Select a template from the options available in the preview box.

5) Click on **Open**, or double click on the template to create a new drawing using the selected template and close the Template dialog.

6) Go to **File > Save As** on the Menu bar and save the new drawing as a file using the extension ODG.

Default template

If a new drawing is created without selecting a template, LibreOffice creates the drawing using a set of properties hard coded into LibreOffice. However, any drawing template can be used as the default template for Draw. The selected template must be located in the templates folders used for LibreOffice applications and categories. See “Template folder location” on page 294 for more information.

Setting default template

1) Use one of the following methods to open the Templates dialog:
   - Go to **File > New > Templates** on the Menu bar.
   - Go to **File > Templates > Manage Templates** on the Menu bar.
   - Use the keyboard short cut *Ctrl*+*Shift*+*N* (macOS ⌘+*Shift*+*N*).

2) Select *Drawings* from the **Filter** drop-down list.

3) Select a category from the options available in the **All Categories** drop-down list.

4) Select a template from the options available in the preview box.

5) Right-click on the selected template and select **Set as default** from the context menu. There is no confirmation that the selected template is now the default template for new drawings. The default template is indicated by check mark at the top left corner of the template icon.

6) Click on **Close** to close the Templates dialog. The next time a new drawing is created, it uses the new default template.

Note

If a new drawing is suitable to use as the default template, then the drawing must be saved as a template first before it can be used as the default template. See “Creating templates” on page 289 for more information.

Tip

To reset all default templates for all LibreOffice modules, click on **Manage** in the Templates dialog and select **Reset All Default Templates** from the drop-down list.

Resetting default template

1) Use one of the following methods to open the Templates dialog:
   – Go to **File > New > Templates** on the Menu bar.
   – Go to **File > Templates > Manage Templates** on the Menu bar.
   – Use the keyboard short cut *Ctrl+Shift+N* (macOS ⌘+*Shift+N*).
2) Select *Drawings* from the **Filter** drop-down list.
3) Select a category from the options available in the **All Categories** drop-down list.
4) Right-click on the default template. The default template is indicated by check mark at the top left corner of the template icon.
5) Select **Reset Default** from the context menu. There is no confirmation that LibreOffice Draw has been reset to using LibreOffice default properties. The check mark is removed from the template icon.
6) Click on **Close** to close the Templates dialog. The next time a new drawing is created, it uses the LibreOffice default template.

Editing templates

Template styles and template content can be edited and, if necessary, reapplied to drawings that were created using that template. Content in a drawing that is not included in the template cannot be reapplied.

Note

Templates that were supplied with LibreOffice cannot be deleted. Only templates that have been created using LibreOffice, or imported into LibreOffice, can be edited or deleted.

Editing

1) Use one of the following methods to open the Templates dialog:
   – Go to **File > New > Templates** on the Menu bar.
   – Go to **File > Templates > Manage Templates** on the Menu bar.
   – Use the keyboard short cut *Ctrl+Shift+N* (macOS ⌘+*Shift+N*).
2) Select a drawing template that was created using LibreOffice, or imported into LibreOffice.
3) Right-click on the selected template and select **Edit** from the context menu to open the template in Draw.
4) Edit the template as any other drawing.
5) Go to **File > Save** on the Menu bar, or use the keyboard shortcut *Ctrl+S* (macOS ⌘+*S*) to save the template.
6) Alternatively, save the edited template as a new template. See “Creating templates” on page 289 for more information.

Updating drawings from modified template

If a drawing is opened and the template has been modified, a confirmation dialog opens asking to update the styles in the drawing to the formatting used in the modified template.

- Select **Update Styles** to update any styles in the drawing that have been changed in the template and close the confirmation dialog.
- Select **Keep Old Styles** so that styles in the drawing that have been changed in the template are not updated. The confirmation dialog closes and does not appear when the document is reopened. Also, the drawing is no longer connected to the template.

Note

If **Keep Old Styles** is selected, the template is still listed under **File > Properties > General.** The template has to be reassigned to reconnect the document to the template.

Changing templates assigned to drawings

If necessary, the template originally used for a drawing can be changed to a different template, or the original template used for the drawing reassigned.

- To manually change, or reassign a template, create a new drawing from the required template and copy the contents from the old drawing into the new drawing.
- Download the Template Changer extension from the LibreOffice website at https://extensions.libreoffice.org/extensions?ord=download_d&Tags%5B%5D=47 and install it into LibreOffice. Restart LibreOffice to activate the extension. Open the drawing and use **File > Templates > Change template (current document)** on the Menu bar to change the template. For more information, see the *Getting Started Guide*.

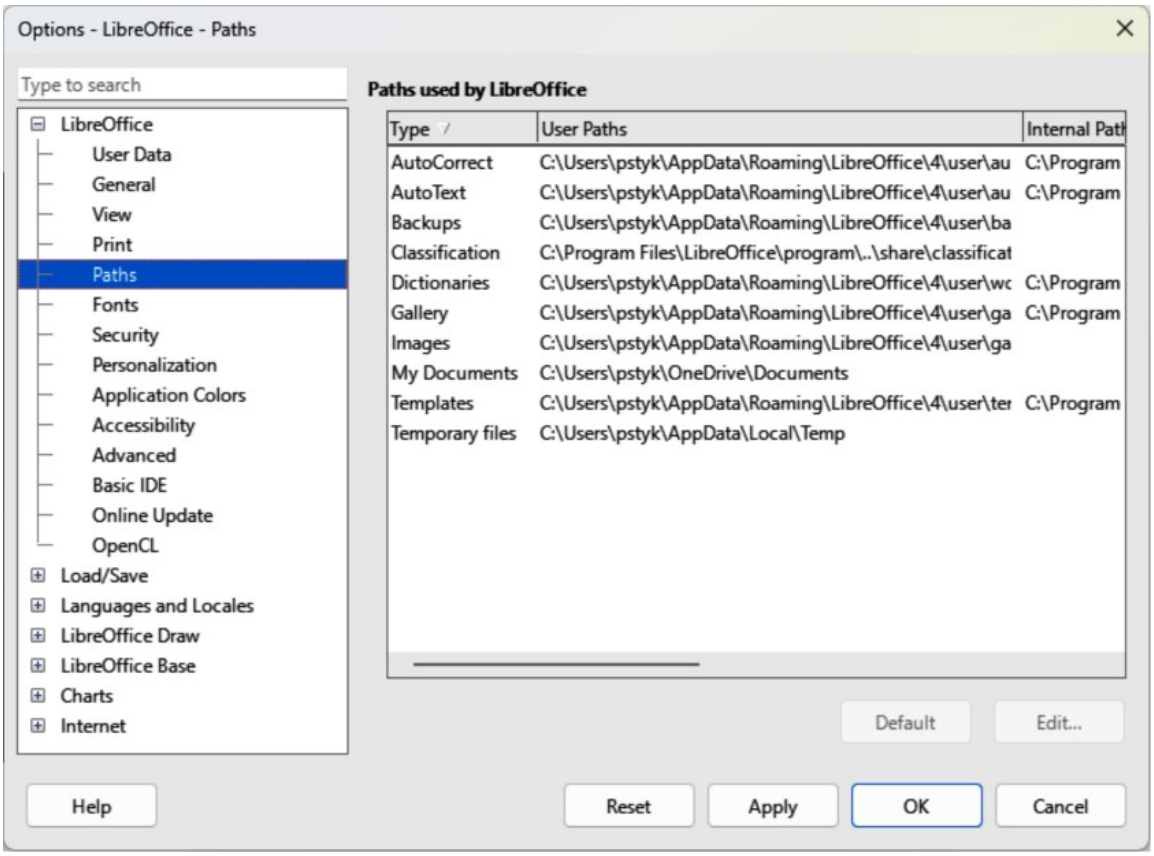

Figure 276: Options LibreOffice Paths dialog

Organizing templates

LibreOffice can only locate templates that are in LibreOffice template folder. Template categories can be created and used to organize templates, for example creating separate categories for different projects or clients. Templates can also be imported and exported.

Template folder location

The template folder location in LibreOffice varies with the computer operating system. Locating the template folder on a computer is as follows:

1) Go to **Tools > Options > LibreOffice > Paths** (macOS **LibreOffice > Preferences > LibreOffice > Paths**) on the Menu bar to open the Options LibreOffice Paths dialog (Figure 276).
2) Scroll down to *Templates* in **Paths used by LibreOffice** to identify the template folder used by LibreOffice. The following are examples of the template folder location using different operating systems:
   – Windows 11
   C\Users\peter\AppData\Roaming\LibreOffice\4\user\template
   – Ubuntu 23.04
   /home/peter/.config/libreoffice/4/user/template;/home/peter/Templates
   – macOS Ventura 13.5
   /Users/peter/Library/Application Support/LibreOffice/4/user/templates

Creating template categories

1) Use one of the following methods to open the Templates dialog:
   – Go to **File > New > Templates** on the Menu bar.
   – Go to **File > Templates > Manage Templates** on the Menu bar.
   – Use the keyboard short cut *Ctrl+Shift+N* (macOS ⌘+*Shift+N*).
2) In the **Filter** drop-down lists, select *Drawings* as the application.
3) In **Manage**, select **New Category** from the context menu.
4) Enter a name in the *Enter new category name* text box in the dialog that opens.
5) Click **OK** to save the new category in LibreOffice and close the dialog.

Note

In LibreOffice template categories, the default options **Rename Category** and **Delete Category** are grayed out. This indicates that template categories cannot be renamed or deleted.

Renaming template categories

Template categories originally installed with LibreOffice cannot be renamed. Only template categories that have been created after the LibreOffice installation can be renamed.

1) Use one of the following methods to open the Templates dialog:
   – Go to **File > New > Templates** on the Menu bar.
   – Go to **File > Templates > Manage Templates** on the Menu bar.
   – Use the keyboard short cut *Ctrl+Shift+N* (macOS ⌘+*Shift+N*).
2) In the **Filter** drop-down lists, select *Drawings* as the application.

3) Select the category for renaming from the options available in the *All Categories* drop-down list.
4) In **Manage**, select **Rename Category** from the context menutest.
5) Enter a name in the *Enter new category name* text box in the dialog that opens.
6) Click **OK** to save the renamed category in LibreOffice and close the dialog.

Deleting template categories

Template categories installed with LibreOffice cannot be deleted. Only template categories that have been created after the LibreOffice installation can be deleted.

1) Use one of the following methods to open the Templates dialog:
   – Go to **File > New > Templates** on the Menu bar.
   – Go to **File > Templates > Manage Templates** on the Menu bar.
   – Use the keyboard short cut *Ctrl+Shift+N* (macOS ⌘+*Shift+N*).
2) In the **Filter** drop-down lists, select *Drawings* as the application.
3) Select the template category for deletion from the options available in the **All Categories** drop-down list.
4) In **Manage**, select **Delete Category** from the drop-down list.
5) Click on **Yes** in the warning message to confirm the deletion of the category.

Moving templates

1) Use one of the following methods to open the Templates dialog:
   – Go to **File > New > Templates** on the Menu bar.
   – Go to **File > Templates > Manage Templates** on the Menu bar.
   – Use the keyboard short cut *Ctrl+Shift+N* (macOS ⌘+*Shift+N*).
2) In the **Filter** drop-down lists, select *Drawings* as the application.

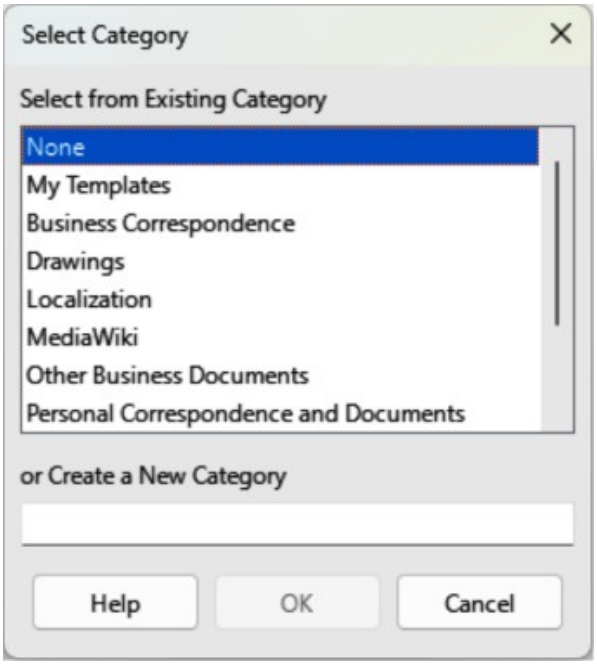

Figure 277: Select Category dialog

3) Select the template category for moving from the options available in the **All Categories** drop-down list.

4) Right-click on the template that is going to be moved and select **Move** from the context menu to open the Select Category dialog (Figure 277).

5) Select a category from Select from **Existing Category**, or enter a name for a new category in **Create a New Category**.

6) Click **OK** to move the template to the selected category and close the Select Category dialog.

Importing templates

Using the Extension Manager, templates can be downloaded from many sources, including the official LibreOffice template repository. For more information about using the Extension Manager to import templates, see the *Getting Started Guide*.

Save the template on a computer, then import the template into the LibreOffice template folder as follows:

1) Use one of the following methods to open the Templates dialog:
   - Go to **File > New > Templates** on the Menu bar.
   - Go to **File > Templates > Manage Templates** on the Menu bar.
   - Use the keyboard short cut *Ctrl+Shift+N* (macOS ⌘+*Shift+N*).
2) In the **Filter** drop-down lists, select *Drawings* as the application.
3) Click on **Manage** and select **Import** from the context menu to open the Select Category dialog (Figure 277).
4) Select a category from **Select from Existing Category**, or enter a name for a new category in **Create a New Category**.
5) Click **OK** and a file browser window opens.
6) Navigate to the folder containing the template, select the template and click **Open**. The file browser closes and the template appears in the selected template category in the Templates dialog.

Note

Exporting a template does not remove it from the Templates dialog, or template folder. Exporting places a copy of the template in the location specified.

Exporting templates

Export a template from a template category to another location in a computer, or network, as follows:

1) Use one of the following methods to open the Templates dialog:
   - Go to **File > New > Templates** on the Menu bar.
   - Go to **File > Templates > Manage Templates** on the Menu bar.
   - Use the keyboard short cut *Ctrl+Shift+N* (macOS ⌘+*Shift+N*).
2) In the **Filter** drop-down lists, select *Drawings* as the application.
3) Select the required template category from the options available in the **All Categories** drop-down list.

4) Right-click on the required template and select **Export** from the context menu to open a file browser window.

5) Navigate to the destination folder where the template is going to be exported to.

6) Click **OK** and the exported template appears in the selected folder.

7) Click on **Close** to close the Templates dialog.

Deleting templates

1) Use one of the following methods to open the Templates dialog:
   - Go to **File > New > Templates** on the Menu bar.
   - Go to **File > Templates > Manage Templates** on the Menu bar.
   - Use the keyboard short cut *Ctrl+Shift+N* (macOS ⌘+*Shift+N*).
2) In the **Filter** drop-down lists, select *Drawings* as the application.
3) Select the required template category from the options available in the **All Categories** drop-down list.
4) Right-click on the template being deleted and select **Delete** from the context menu.
5) Click on **Yes** to confirm the deletion of the template.
6) Click on **Close** to close the Templates dialog.

Note

Templates installed with LibreOffice cannot be deleted. Only templates that have been created or imported after the installation of LibreOffice can be deleted.

Multiple layers

Notes

When a new layer is added, the layer is added to all pages in a drawing. However, when an object is added to a layer in a selected page, it is only added to the selected drawing page.

If an object is to appear on all drawing pages, for example, a company logo, add the object to the master page by going to **View > Master** on the Menu bar. See “Master pages” on page 283 for more information.

Layers in Draw allow assembly of related elements in a drawing. Layers are individual workspaces in a drawing that can be hidden from view, prevented from printing, or locked so that changes cannot be made.

Layers do not determine the stacking order of objects on a drawing, except for the **Controls** layer. The **Controls** layer is always in front of all other layers in a drawing. The stacking order of objects on a drawing is determined by the order in which objects were added. The stacking order of objects are rearranged by going to **Shape > Arrange** on the Menu bar.

Figure 278: Example of Draw Layers tab

Layers in a drawing are indicated by tabs located at the bottom of the **Workspace** and above the **Status bar**, as shown by the example in Figure 278. By default, the **Layout** tab is always selected when a drawing is opened. Click on another tab to select another layer in the drawing.

Default layers

Normal view

In **Normal** view, LibreOffice Draw provides three default layers that are visible to the user. These default layers cannot be deleted or renamed.

Layout

The default workspace where objects are normally placed.

Controls

Used for form controls that have been assigned an action. Objects on this layer are always in front of objects on other layers. To prevent form controls from being visible on a drawing, deselect the **Visible** option in the Insert Layer or Modify Layer dialog. To prevent form controls from being printed, deselect the **Printable** option in the Insert Layer or Modify Layer dialog.

Dimension Lines

When dimension lines are drawn, the dimension lines are automatically placed on this layer. To prevent dimension lines from being visible on a drawing, deselect the **Visible** option in the Insert Layer or Modify Layer dialog. To prevent dimension lines from being printed, deselect the **Printable** option in the Insert Layer or Modify Layer dialog.

Master view

In **Master** view, LibreOffice provides a single layer, **Background objects**. This layer is used to places objects that appear on every page in a drawing, for example company logo, date, page number, drawing title, and so on.

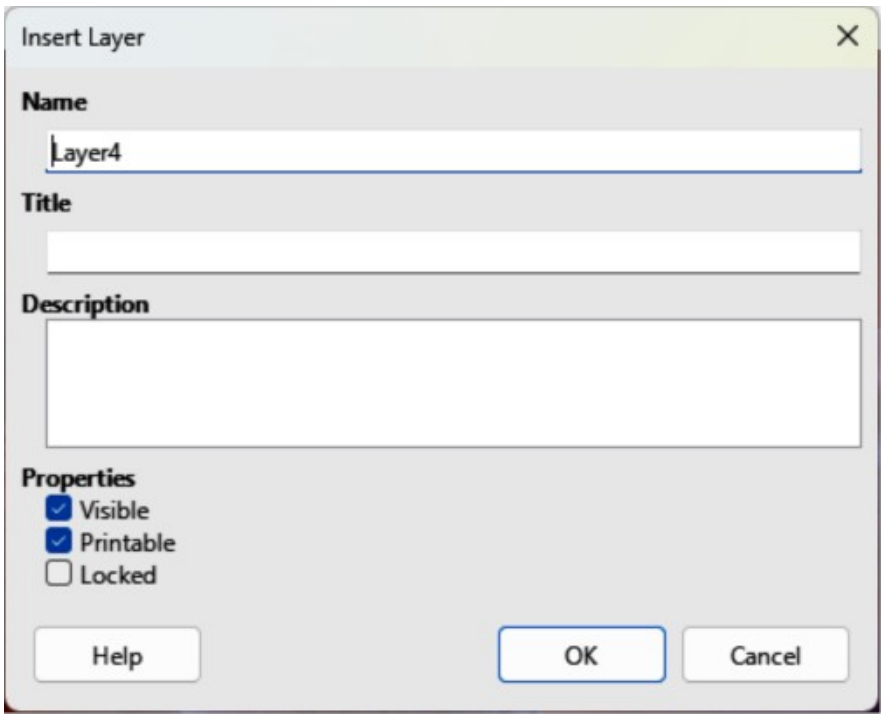

Figure 279: Insert Layer dialog

Inserting layers

1) Use one of the following methods to open the Insert Layer dialog (Figure 279):
   – Right-click the layer tab area at the bottom of the **Workspace** area and select **Insert Layer** from the context menu.
   – Go to **Insert > Layer** on the Menu bar.
2) Enter meaningful names for the layer in the **Name** and **Title** text boxes.
3) If necessary, enter a description for the new layer in the **Description** text box.
4) Select **Visible** for the layer 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.
5) Select **Printable** for the layer to print when the drawing is printed. The name of a layer is underlined in the layer tab bar when **Printable** is not selected. For example, not printing a layer is useful if the layer is a draft layer for guides or annotations used in creating the drawing, but is not required for the final printed output.
6) Select **Locked** to prevent any objects on a layer from deletion, editing, or moving. No additional objects can be added to a locked layer. The name of a locked layer is changes to *Italic* text in the layer tab bar. For example, locking a layer is useful when a base plan is to be protected while adding a new layer with other details.
7) Click **OK** to close the Insert Layer dialog and the new layer automatically becomes active

Modifying layers

1) Select the layer that is going to be modified.
2) Use one of the following methods to open the Modify Layer dialog. The Modify Layer dialog is similar to the Insert Layer dialog:
   – Right-click the layer tab area at the bottom of the **Workspace** area and select **Modify Layer** from the context menu.
   – Go to **Format > Layer** on the Menu bar.
   – Double click on the layer tab.
3) Make the necessary changes to the attributes for the layer.
4) Click **OK** to save the changes and close the Modify Layer dialog.

Working with layers

Selecting a layer

Click on the layer name tab in the **Layers** tab bar to select and activate the layer. Objects added to the drawing are only added to the active layer. Form controls are automatically added to the **Controls** layer and dimension lines are automatically added to the **Dimension Lines** layer.

If there are several layers in a drawing, a layer tab may not be visible on the **Layers** tab bar. Use the navigation icons on the left of the **Layers** tab bar to navigate to the required layer.

Hiding layers

1) Select the layer that is going to be hidden and open the Modify Layer dialog.
2) Deselect **Visible** and click **OK**. The text on the layer name tab changes color to blue. Any objects placed on a hidden layer are no longer visible on the other layers of the drawing.
3) Alternatively, hold down the *Shift* key and click on the layer name tab to hide the layer.

Showing hidden layers

1) Select the hidden layer that is going to become visible and open the Modify Layer dialog.
2) Select **Visible** and click **OK**. The text on the layer name tab changes color to the default text color. Any objects placed on a hidden layer are now visible in the other layers of the drawing.
3) Alternatively, hold down the *Shift* key and click on the layer name tab to make the layer visible.

Locking layers

1) Select the layer that is going to be locked and open the Modify Layer dialog.
2) Select **Locked** and click **OK**. The text on the layer name tab is underlined. Locking a layer prevents any modification of the layer.
3) Alternatively, hold down the *Ctrl* (macOS ⌘) key and click on the name tab to lock the layer.

Unlocking layers

1) Select the locked layer and open the Modify Layer dialog.
2) Deselect **Locked** and click **OK**. The text on the layer name tab is no longer underlined.
3) Alternatively, hold down the **Ctrl** (macOS ⌘) key and click on the name tab of the locked layer to unlock it.

Note

Only layers that have been added to a drawing can be renamed or deleted. The default layers **Layout**, **Controls**, and **Dimension Lines** cannot be renamed or deleted.

Renaming layers

1) Select the layer that is going to be renamed and open the Modify Layer dialog.
2) Enter a new name in the **Name** text box and click **OK** to save the change.
3) Alternatively, right-click on the name tab of the layer and select **Rename Layer** from the context menu. The text becomes editable allowing the name to be changed. Click outside the tab area to save the change.
4) Alternatively, hold down the *Alt* key (macOS ⌥) and click on the name tab. The text becomes editable allowing the name to be changed. Click outside the tab area to save the change.

Deleting layers

1) Right-click on the name tab of the layer that is going to be deleted and select **Delete Layer** from the context menu.
2) Confirm the deletion of the layer. The layer and all of the objects on the layer are deleted from the drawing.

Moving objects between layers

If objects are selected on a layer, the **Status bar** indicates how many objects are selected. The position of the moved objects does not change in the drawing and the layer where the objects have been placed is displayed in the **Status bar**. Move the selected objects from one layer to another layer using one of the following methods:

- Click and drag the selected objects to the name tab of the destination layer.
- Go to **Edit > Cut** on the Menu bar, or right-click on the selected objects and select **Cut** from the context menu. Select the destination layer, then go to **Edit > Paste** on the Menu bar, or right-click on the **Workspace** and select **Paste** from the context menu.

Dimensioning

Dimensioning objects in Draw and then displaying dimensions creates drawing similar to an engineering drawing. When dimensions are created, they are automatically placed on the **Dimension Lines** layer.

Dimensioning objects

1) Dimension an object using one of the following methods. The cursor changes shape depending on computer operating and system, for example a cross:
   – Click on the triangle ▼ next to **Lines and Arrows** on the Drawing toolbar to open the Lines and Arrows subtoolbar (Figure 280) and click on **Dimension Line.**
   – Click on **Dimension Line** in the **Lines and Arrows** panel in the Shapes deck on the Sidebar (Figure 281).
2) Position the cursor at one corner of an object, then click and drag the cursor to draw the dimension line. To restrict drawing the dimension line in the horizontal or vertical direction, hold down the *Shift* key while dragging the cursor.
3) Release the cursor when the end of the dimension line is reached and the dimension line is drawn. The dimension is automatically added (as shown by the example in Figure 282). Also, the dimension line is placed automatically on the **Dimension Lines** layer.
4) To edit the text of the dimension, double-click on an unselected dimension line to enter text edit mode and make any necessary changes. Click outside the dimension line to save the changes.

Figure 280: Lines and Arrows subtoolbar

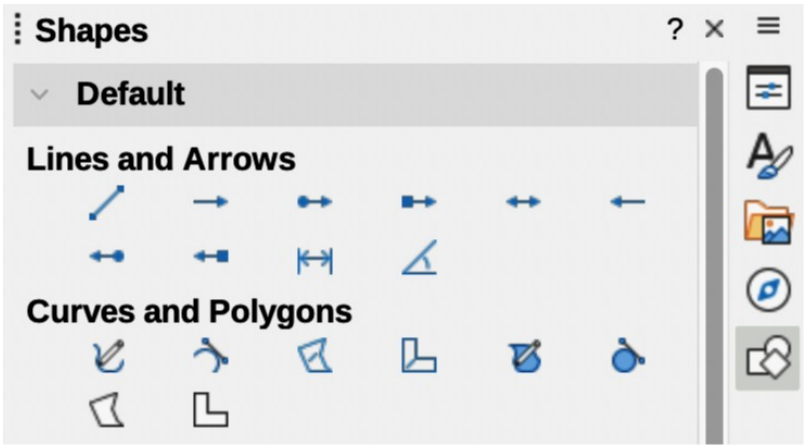

Figure 281: Lines and Arrows panel in Shapes deck on Sidebar

5) To configure the dimension line, see “Configuring dimensioning” on page 303.

Note

After editing the dimension text, entering text and then deleting text, save and close the drawing. Reopen the drawing to enable dimension automatic measurements.

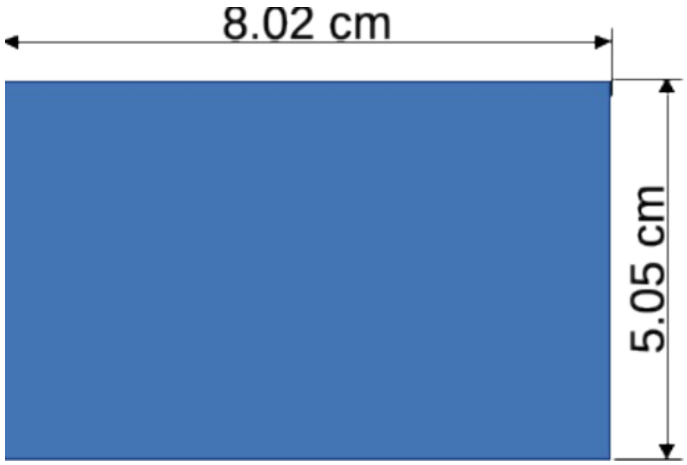

Figure 282: Example of dimension lines

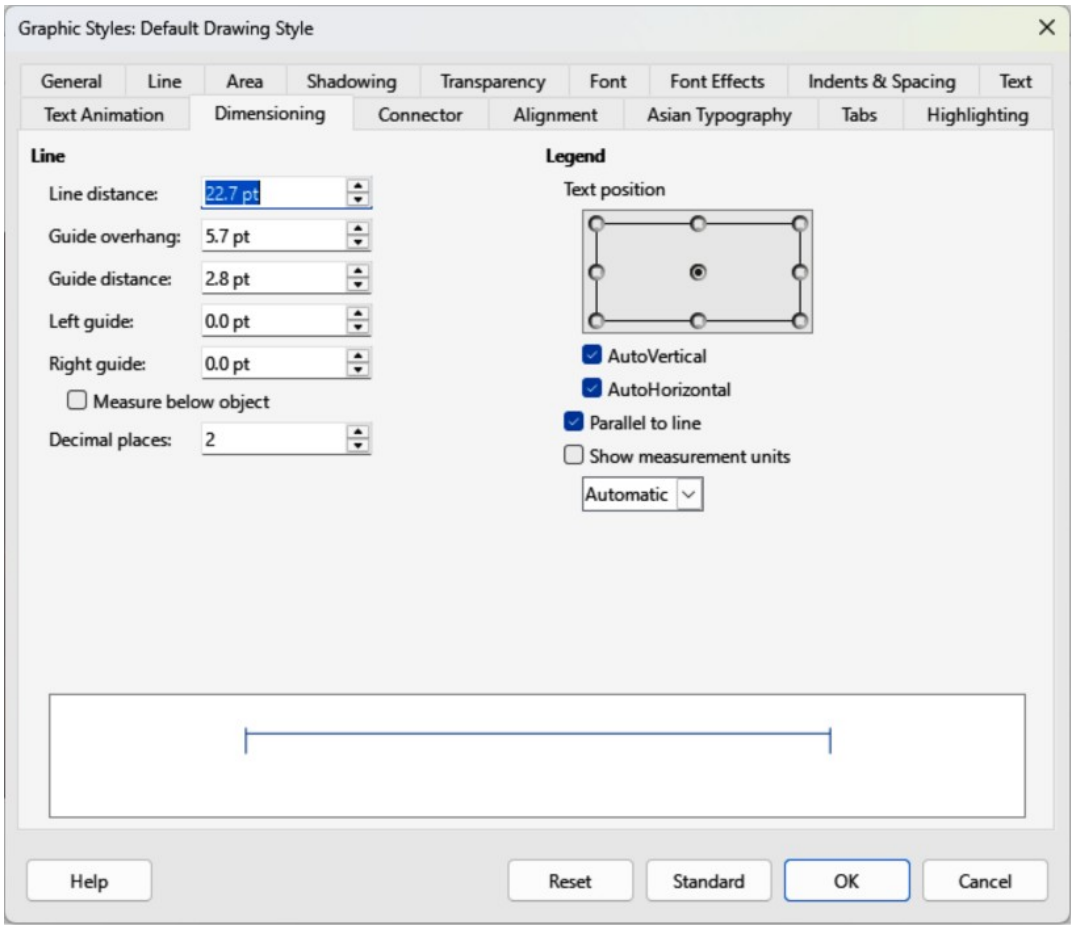

Figure 283: Graphic Styles dialog — Dimensioning page

Configuring dimensioning

Drawing object styles

1) Open the Graphics Styles dialog (Figure 283) using one of the following methods:
   - Go to **Format > Styles > Edit Style** on the Menu bar.
   - Use the keyboard shortcut *F11* (macOS ⌘+*T*) to open the Styles deck on the Sidebar, then right-click on a style and select **Modify** from the context menu.
   - Click on **Styles** on the Sidebar to open the Styles deck, then right-click on a style and select **Modify** from the context menu.
2) Click on **Dimensioning** to open the **Dimensioning** page in the dialog.
3) Make the changes required to dimensioning using the various options in the **Line** and **Legend** sections on the **Dimensioning** page.
4) Click **OK** to save the changes and close the Graphic Styles dialog.
5) To reset the dimensioning options to the default properties of the template, open the Graphics Style dialog, then click on **Standard**.

Dimension line dialog

1) Draw a dimension line. See “Dimensioning objects” on page 301 for more information.
2) Right-click on the dimension line and select **Dimensions** from the context menu to open the Dimension line dialog (Figure 284).

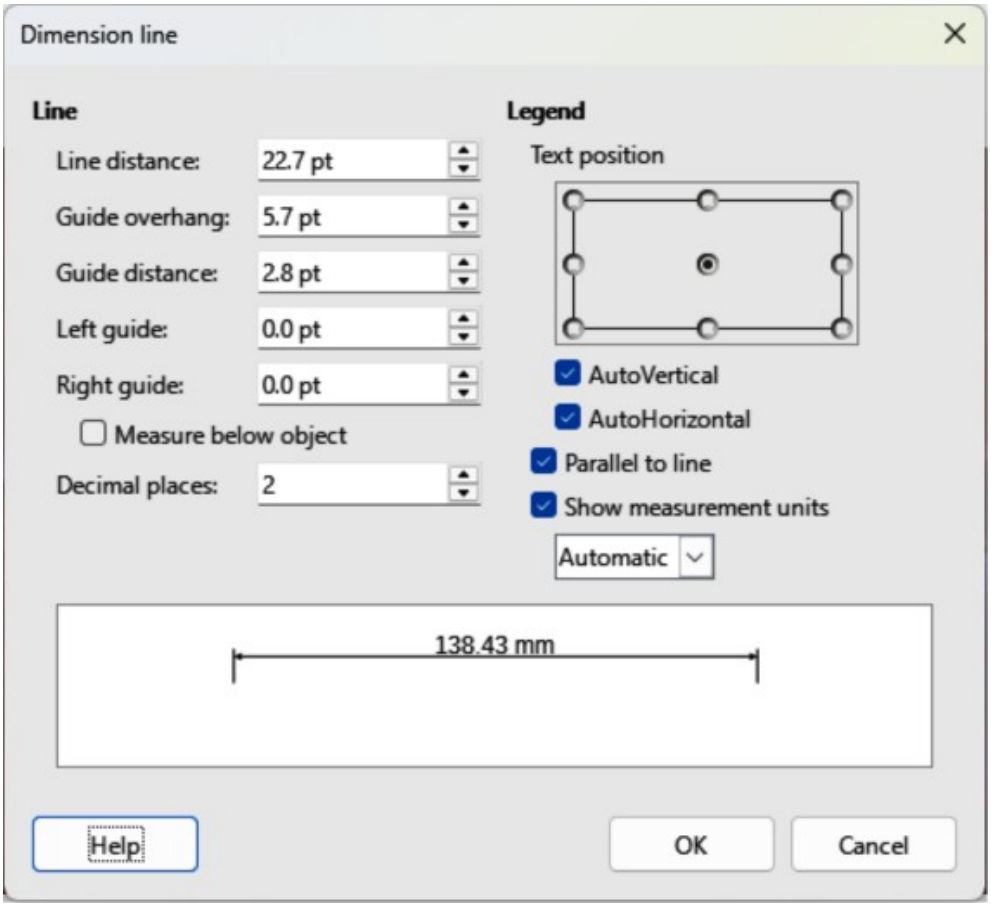

Figure 284: Dimension Line dialog

3) Make the required changes for dimensioning using the various options in the Dimension line dialog.

4) Click **OK** to save the changes and close the Dimension line dialog.

Dimensioning options

The dimensioning options in the **Dimensions** page in the Graphics Style dialog and the Dimension Line dialog are as follows. The preview in the dialogs changes as the following options are changed showing how the dimension line appears in a drawing.

Line

Sets distances between the dimension line, guides and the object.

Line distance

Specifies distance between the dimension line and the object or baseline. A minimum of -10mm to a maximum of 10mm can be entered in the text box. The lower the value, the closer the dimension line is to the object or baseline.

Guide overhang

Specifies distance the guide extends above or below the dimension line. A minimum of -10mm to a maximum of 10mm can be entered in the text box. Positive values cause the guide overhang to extend above the dimension line. Negative values cause the guide overhang to be below the baseline.

Guide distance

Specifies length of the right and left guides below the dimension line toward the object. A minimum of -10mm to a maximum of 10mm can be entered in the text box. Positive values extend the guides above the baseline and further away from the object. Negative values extend the guides below the baseline and closer to the object.

Left guide

Specifies length of the left guide starting at the dimension line. A minimum of -10mm to a maximum of 10mm can be entered in the text box. Positive values extend the guide below the dimension line toward the object. Negative values move the guide away from the object.

Right guide

Specifies length of the right guide starting at the dimension line. A minimum of -10mm to a maximum of 10mm can be entered in the text box. Positive values extend the guide below the dimension line toward the object. Negative values move the guide away from the object.

Measure below object

Reverses positions and lengths of the dimension line and guides set in **Line** options.

Decimal places

Specifies number of decimal places used for the display of line properties.

Legend

Sets the properties of the dimension text.

Text position

Determines position of the dimension text to the dimension line and guides. The *AutoVertical* and *AutoHorizontal* must be deselected before a text position can be assigned.

AutoVertical

Determines optimal vertical position for the dimension text.

AutoHorizontal

Determines optimal horizontal position for the dimension text.

Parallel to line

Displays, when selected, text parallel to the dimension line or, when deselected, at 90 degrees to the dimension line.

Show measurement units

Shows or hides dimension measurement units. A measurement unit is selected from the drop-down list.

Note

The dimensioning options are linked to the current drawing and any dimensioning changes made apply only to the current drawing. New drawings start with the Draw standard properties. If the dimensioning options are to be used for future drawings, save the drawing as a template.

Tip

When dimensioning objects, it is recommended to use the zoom function, guide lines and snap functions so dimension lines can be accurately placed on an object. See Chapter 3, Working with Objects and Object Points for more information.

Drawing to scale

In Draw, the Workspace drawing area is normally Letter or A4 page size, depending on the computer setup and the default printer connected to the computer. However, depending on the actual size of the drawn objects, it is often convenient to reduce or enlarge the drawing by scaling (for example 1:10 or 2:1).

Note

When drawing to scale, dimension configuration values in the Graphics Style and Dimension Line dialogs are also to scale. For example, a value of 10mm in the dialog results in a dimension value of 300mm if the scale has been set to 1:30.

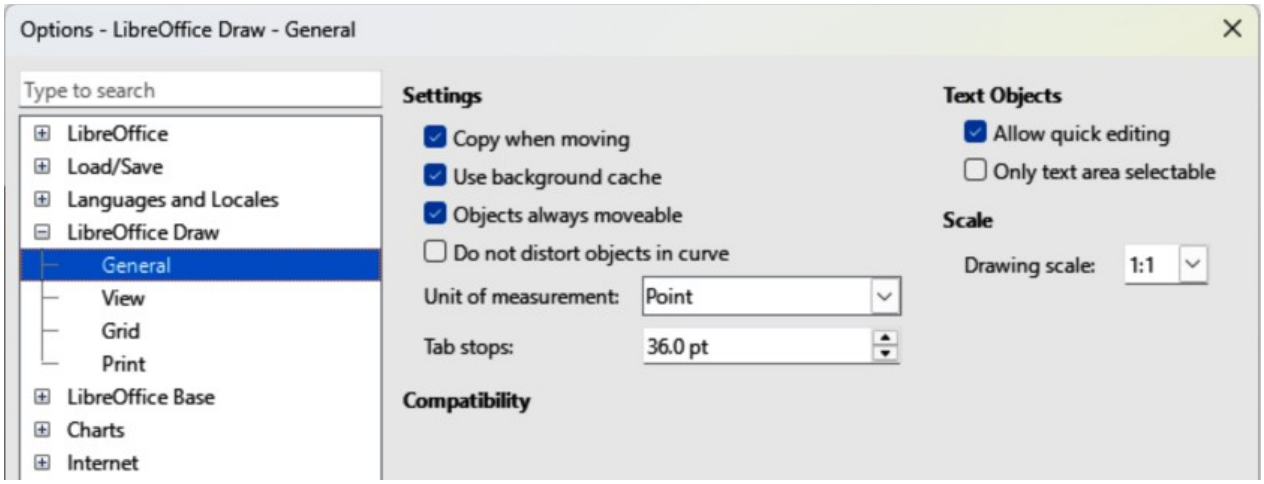

Figure 285: Options LibreOffice Draw dialog — General page

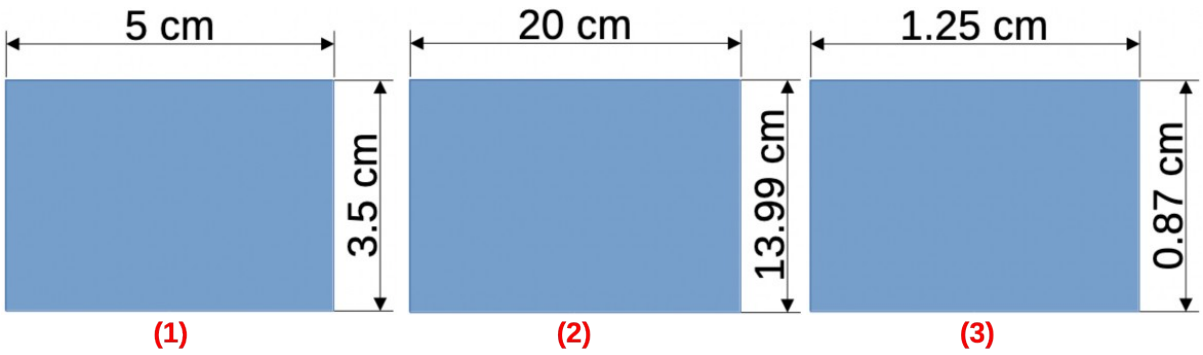

Figure 286: Example of drawing to scale

To specify the drawing scale go to **Tools > Options > LibreOffice Draw > General** (macOS **LibreOffice > Preferences > LibreOffice Draw > General**) to open the Options dialog (Figure 285), then select a value from the **Scale** drop-down list. The default setting for this option is 1:1. When a change is made to the drawing scale, it is reflected in the horizontal and vertical rulers on the Workspace.

Any change in the drawing scale has no effect on the basic drawing operations. Draw automatically calculates the necessary values (for example, dimension lines). The spacing of the grid points is independent of drawing scale as the grid is only a visual drawing aid and not a drawing element.

An increase in scale (for example 1:4) allows large objects to be drawn that would not fit into the paper size for a drawing. A decrease in drawing scale (for example 4:1) allows small objects to be drawn accurately at an increased size and make them easier to understand. Examples of drawing to scale are shown in Figure 286 where all three rectangles are the same size in the drawing.

1) **Left rectangle** — drawn at the default 1:1 scale and dimensioned.
2) **Center rectangle** — drawing scale changed to 1:4. Dimensions are automatically increased by Draw to display the decrease in scale.
3) **Right rectangle** — drawing scale changed to 4:1. Dimensions are automatically decreased by Draw to display the increase in scale.

Multiple views of a drawing

Several views of the same drawing can be opened and used in Draw. These views are displayed in separate windows and are useful in displaying different views of the drawing, for example, master page and normal page open at the same time. Make sure the correct view is active when saving a drawing.

To open a new window for the same drawing file, go to **Window > New Window** on the Menu bar. Any change to a drawing in one window is immediately displayed in all open windows.

The filename for each open window is automatically numbered as shown by the example in Figure 287 and the active window has a marker by its filename in the list. If other LibreOffice documents are open at the same time, then these documents are also be included in the list. Switch between windows by clicking on a name in the list, or by clicking on the window itself if visible.

Figure 287: Example of multiple windows in Draw

Use one of the following methods to close a window:

- Go to **Window > Close Window** on the Menu bar.
- Use the keyboard shortcut *Ctrl+W* (macOS ⌘+*W*).
- Click on **File > Close** in the Menu bar of the window.

Gallery

Draw includes several images in the Gallery. These images are grouped into themes listed in alphabetical order (for example **Arrows, BPMN, Bullets**, **Diagrams**, and so on). Click on a theme to display its images as icons or in a detailed view.

- To display an icon view of the images in the Gallery deck (Figure 288), click on **Icon View** at the bottom left of the Sidebar.
- To display an detailed view of the images in the Gallery deck (Figure 290), click on **Detailed View** at the bottom left of the Sidebar.

Using the Gallery

1) Click on **Gallery** on the Sidebar, or go to **Insert > Media > Gallery** on the Menu bar.
2) Select a theme from the available options.

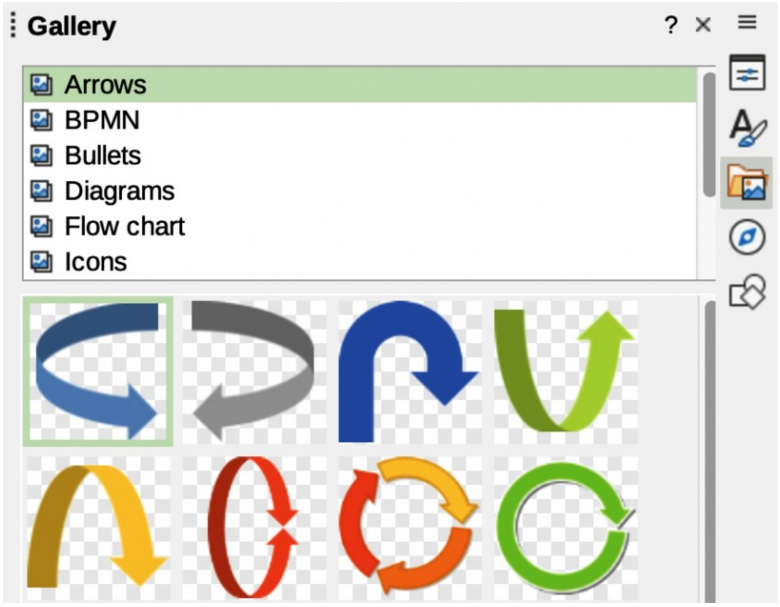

Figure 288: Gallery deck in Sidebar — Icon View

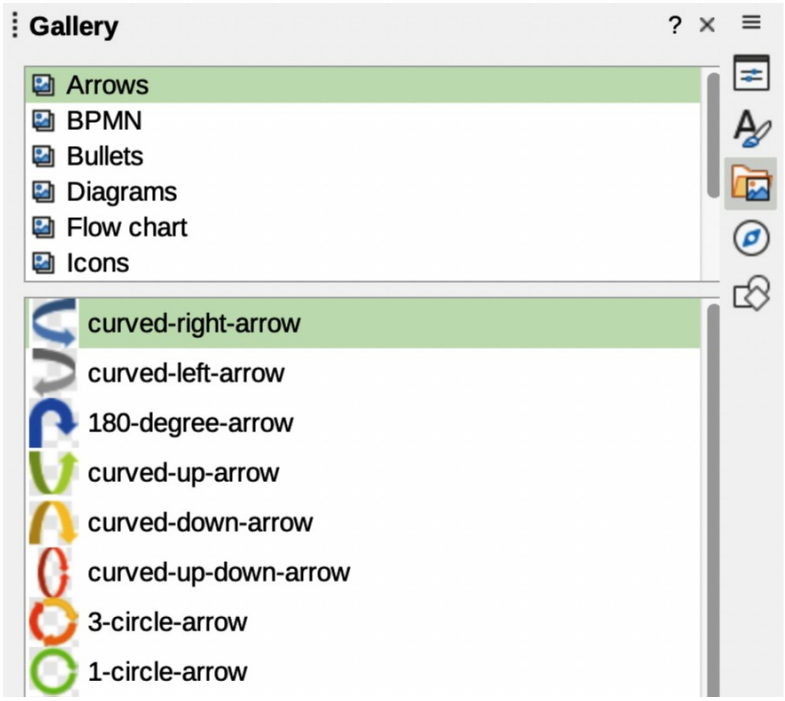

Figure 289: Gallery deck in Sidebar — Detailed View

3) Use one of the following methods to place an image into a drawing:
   - Click on an image in the Gallery deck and drag the image into a drawing.
   - Right-click on an image and select **Insert** from the context menu. The image is placed at the center of a drawing.
   - Right-click on an image and select **Copy** from the context menu then paste the image into the drawing. The image is placed at the center of the drawing.
4) Edit the gallery image to the drawing requirements. For more information on editing images and pictures, see Chapter 6, Editing Pictures.

Creating themes and adding images

1) Open the Gallery deck on the Sidebar.
2) Click on **New** at the bottom right of the Gallery deck to open the Properties of New Theme dialog (Figure 290).
3) On the **General** page, enter a name for the theme in the text box.
4) Click on **Files** to open the Files page (Figure 291).
5) Click on **Find Files** to open a Select Path dialog.
6) Navigate to the folder that contains the images required and click **OK** to select the folder and the Select Path dialog closes. A list of files contained in the folder now appear in the Files page as shown by the example in Figure 291.
7) If necessary, select the file format required for the images from the options available in the drop-down list. By default, all formats for image files are selected.
8) If required, click on **Preview** to display each selected image file.
9) Select the files required for the new theme. If necessary, press the *Ctrl* key (macOS ⌘) to select multiple files.

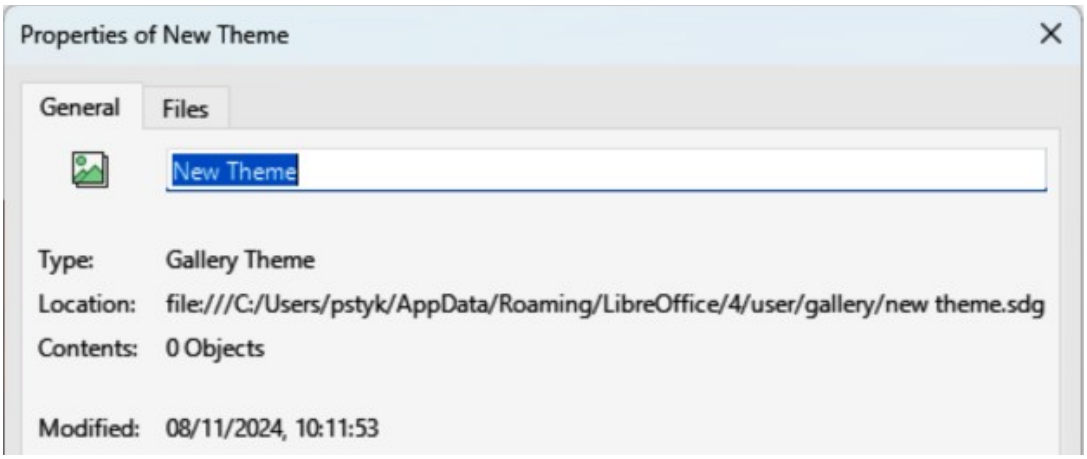

Figure 290: Properties of New Theme dialog — General page

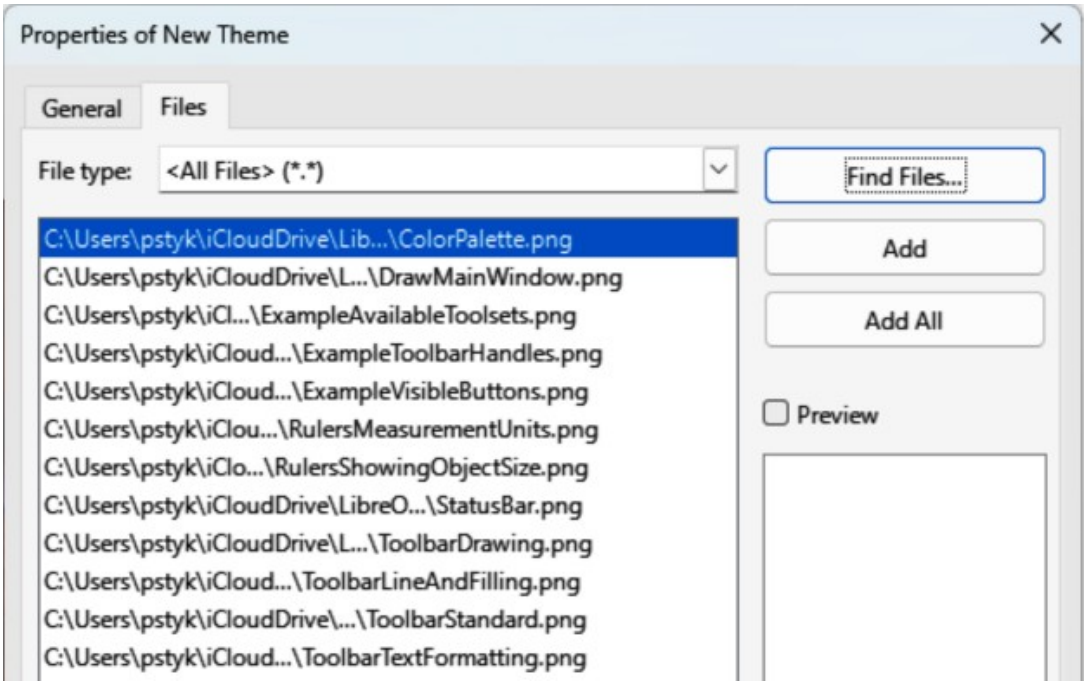

Figure 291: Properties of New Theme dialog — Files page

10) Click on **Add**. The selected files disappear from the file list and the images appear in the Gallery.

11) If all the files in the list are to be added, click **Add All**. All files disappear from the list and the images appear in the Gallery.

12) Click **OK** when finished adding files and close the Properties of New Theme dialog. The name of the new theme appears in the Gallery deck.

Deleting gallery themes and images

1) Right-click on a theme, or image in the Gallery and select **Delete** from the context menu.

2) Click on **Yes** in the confirmation dialog and the theme, or image is deleted from the Gallery.

Notes

If an object is added to a theme, the object loses its connection to Draw graphic styles and all properties are set as direct formatting.

Only themes and images that have been added to Draw can be deleted or renamed. Themes and images included with the LibreOffice installation cannot be deleted or renamed.

An image is a linked file and only the link is deleted from the Gallery. The original image file is not deleted.

Updating the Gallery

All images in the Gallery are linked files. Occasionally, it is beneficial to update a theme that has been added to Draw to make sure that all files are still accessible. Right-click on a theme that has at least one file added to the theme and select **Update** from the context menu.

Renaming themes

To rename a theme that has been added to LibreOffice Draw, right-click on the theme name and select **Rename** from the context menu.

Colors

Draw (like all LibreOffice modules) uses colors grouped into color palettes. Colors can be created to suit drawing requirements. All custom colors created are placed in the custom color palette. The following explains the color models that are used to create a custom color.

Red, Green, Blue (RGB)

The RGB color model is based on the additive color model of light waves and is designed for electronic displays and computers. This means, the more color added, the closer a color moves towards white. RGB is created using scales from 0 to 255. When black is used, the values are R=0, G=0, and B=0. When white is used, the values are R=255, G=255, and B=255. LibreOffice uses the RGB color model internally for printing in all LibreOffice modules.

Cyan, Magenta, Yellow, Key (Black) (CMYK)

The CMYK color model is a subtractive color model where colors are subtracted to change, or create a color. It is mainly used in printing, which is why printer ink cartridges are labeled CMYK. CMYK works on a scale of 0 to 100. When black is used, the values are C=100, M=100, Y=100, and K=100. When white is used, the values are C=0, M=0, Y=0, and K=0.

Hue, Saturation, Brightness (HSB)

The HSB color model is an alternative representation of the RGB color model. HSB was designed to be more closely aligned with the way human vision perceives color-making attributes. Use HSB values to fine tune any custom colors that are created.

Tip

More information on color models and color values can be found at https://en.wikipedia.org/wiki/Color_model.

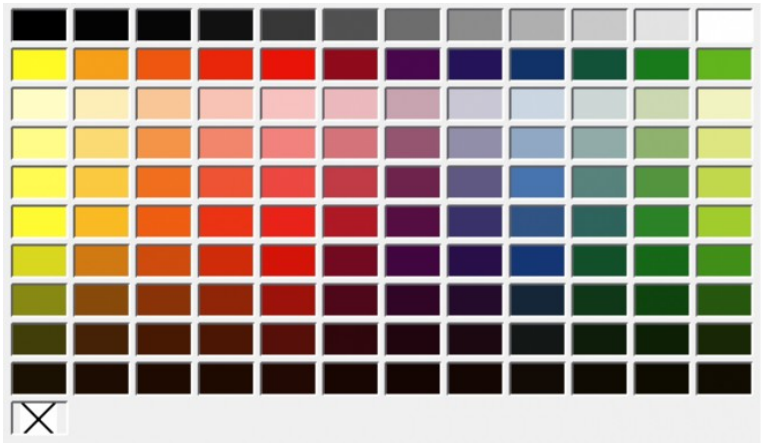

Figure 292: Color Bar (Color Palette)

Changing colors in objects or lines

When changing colors in objects, color palettes are used to select colors. These color palettes are installed with LibreOffice and are used in all the LibreOffice modules. Using color palettes is similar across all types of objects, but accessing the color palettes does vary according to the type of object selected.

Note

The colors available in the **Color Bar** are from the Standard color palette that is part of the LibreOffice installation.

Color Bar

Although LibreOffice includes tools to precisely specify a color, it also includes a **Color Bar** (Figure 292) to quickly changing color in object area fills, borders, or lines. The **Color Bar** is also called the Color Palette.

1) Select an object in the drawing.
2) Go to **View > Color Bar** on the Menu bar to open the Color Bar. When the Color Bar opens, it is labeled **Color Palette**.
3) Left click on a color to change the area fill color, or right-click on a color to change the border or line color of a selected object.
4) Left click on the **X** box in the bottom left corner of the **Color Bar** to remove the color from an object fill, or right-click on the **X** box in the bottom left corner of the **Color Bar** to remove the color from an object border,
5) To close the **Color Bar**, go to **View > Color Bar** on the Menu bar and deselect **Color Bar**.

Area dialog

1) Select an object in the drawing.
2) Open the Area dialog (Figure 293) using one of the following methods:
   – Go to **Format > Area** on the Menu bar.
   – Right-click on the object and select **Area** from the context menu.
3) Click on **Area**, then click on **Color** to open the **Color** page.
4) In **Colors**, select a color palette from the *Palette* drop-down list.

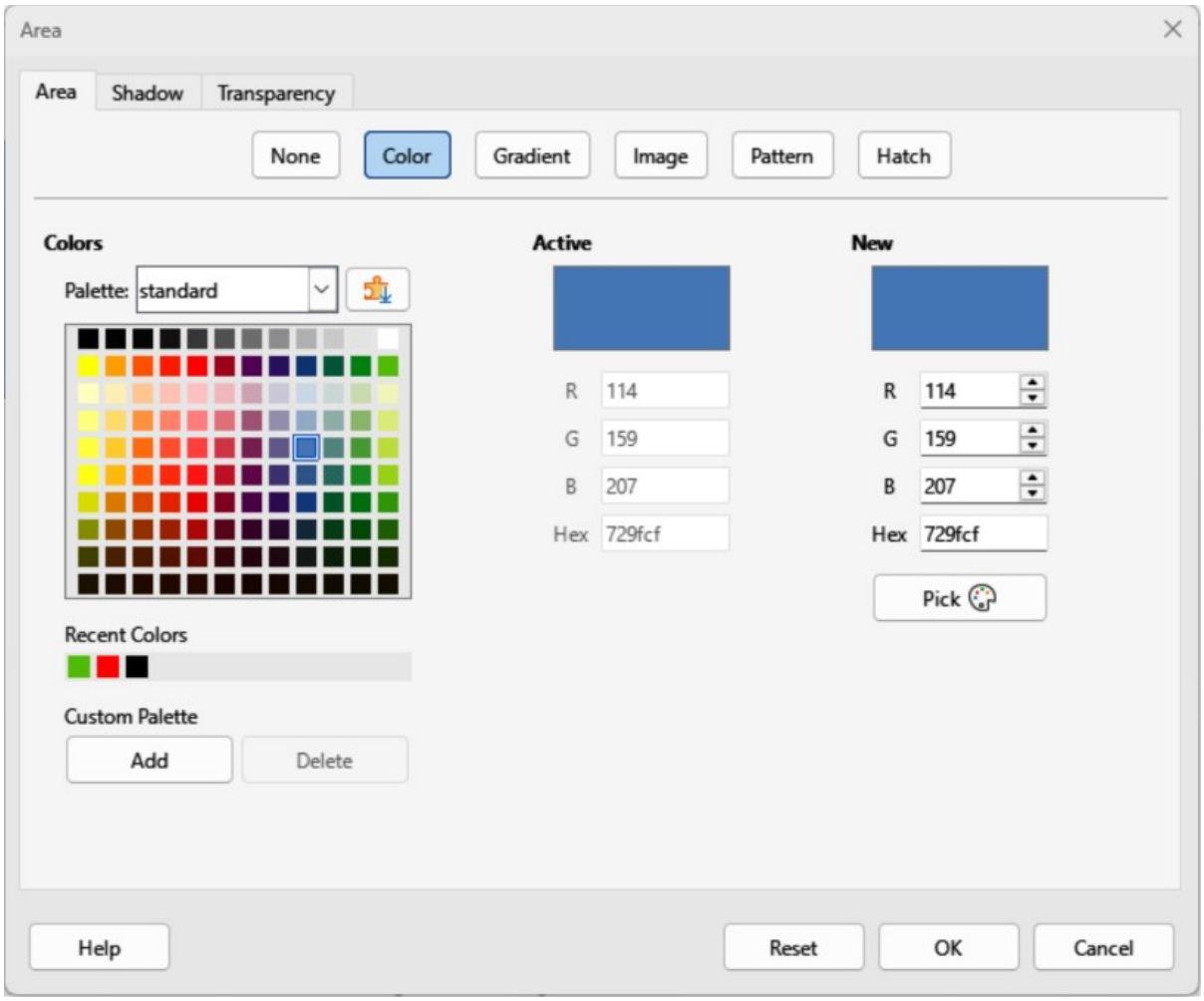

Figure 293: Area dialog — Color page

5) Click on a color from the ones displayed in the color palette, or select a color that has been previously used from *Recent Colors*.

6) Click **OK** to save the changes and close the Area dialog. The selected fill color appears in the selected object.

Area panel on the Sidebar

1) Select an object in the drawing.

2) Open the **Area** panel in the Properties deck on the Sidebar (Figure 294).

3) Select *Color* from the **Fill** drop-down list.

4) Click on the triangle ▼ on the right of **Fill Color** to open the palette last used.

5) If necessary, select a color palette from the available palettes in the drop-down list.

6) Click on a color from the colors displayed in the color palette, or select a color that has been previously used from those displayed in *Recent*. The color palette closes and the selected fill color is applied to the object.

Fill Color on the Line and Filling or Drawing toolbars

1) Select an object in the drawing.

2) Click on the triangle ▼ to the right of **Fill Color** on the Line and Filling toolbar, or the Draw toolbar to open the last color palette used.

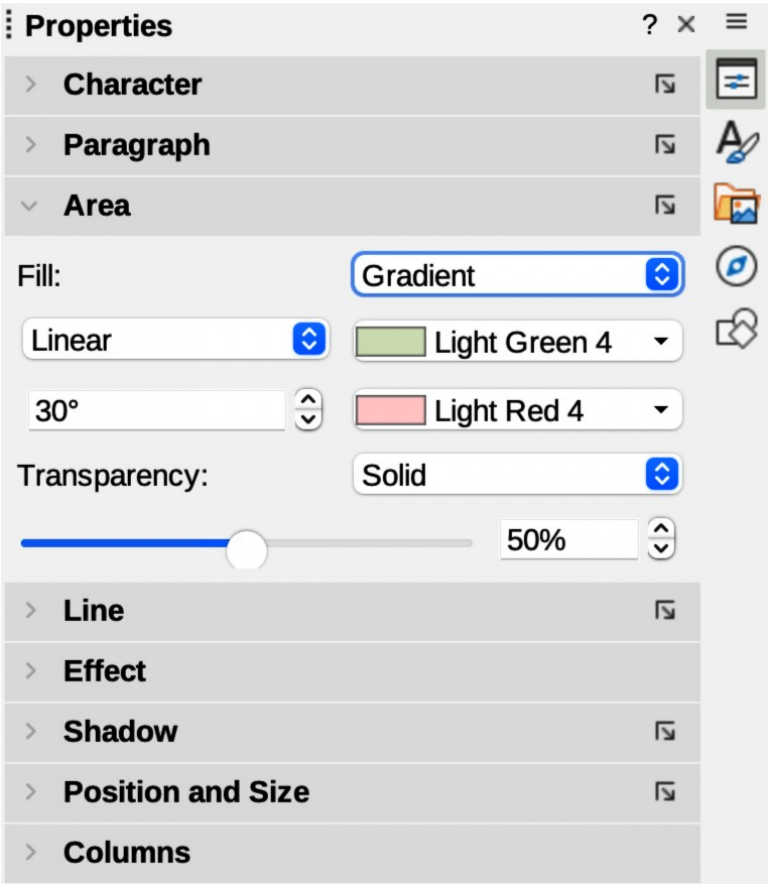

Figure 294: Area panel in Properties deck on Sidebar

3) Click on a color from the colors displayed in the color palette, or select a color that has been previously used from those displayed in *Recent*. The color palette closes and the selected fill color is applied to the selected object

Line dialog

1) Select a line, or object in the drawing.
2) Open the Line dialog (Figure 295) using one of the following methods:
   – Go to **Format > Line** on the Menu bar.
   – Right-click on the line or object and select **Line** from the context menu.
3) Click on **Line** to open the **Line** page.
4) Click on the triangle ▼ to the right of *Color* in **Line Properties** to open the last color palette used.
5) Select a color palette to use from the available palettes in the drop-down list.
6) Click on a color from the colors displayed in the color palette, or select a color that has been previously used from those displayed in *Recent*. The color palette closes and the selected line color is applied to the line or object border.
7) Click **OK** to save the color change and close the Line dialog.

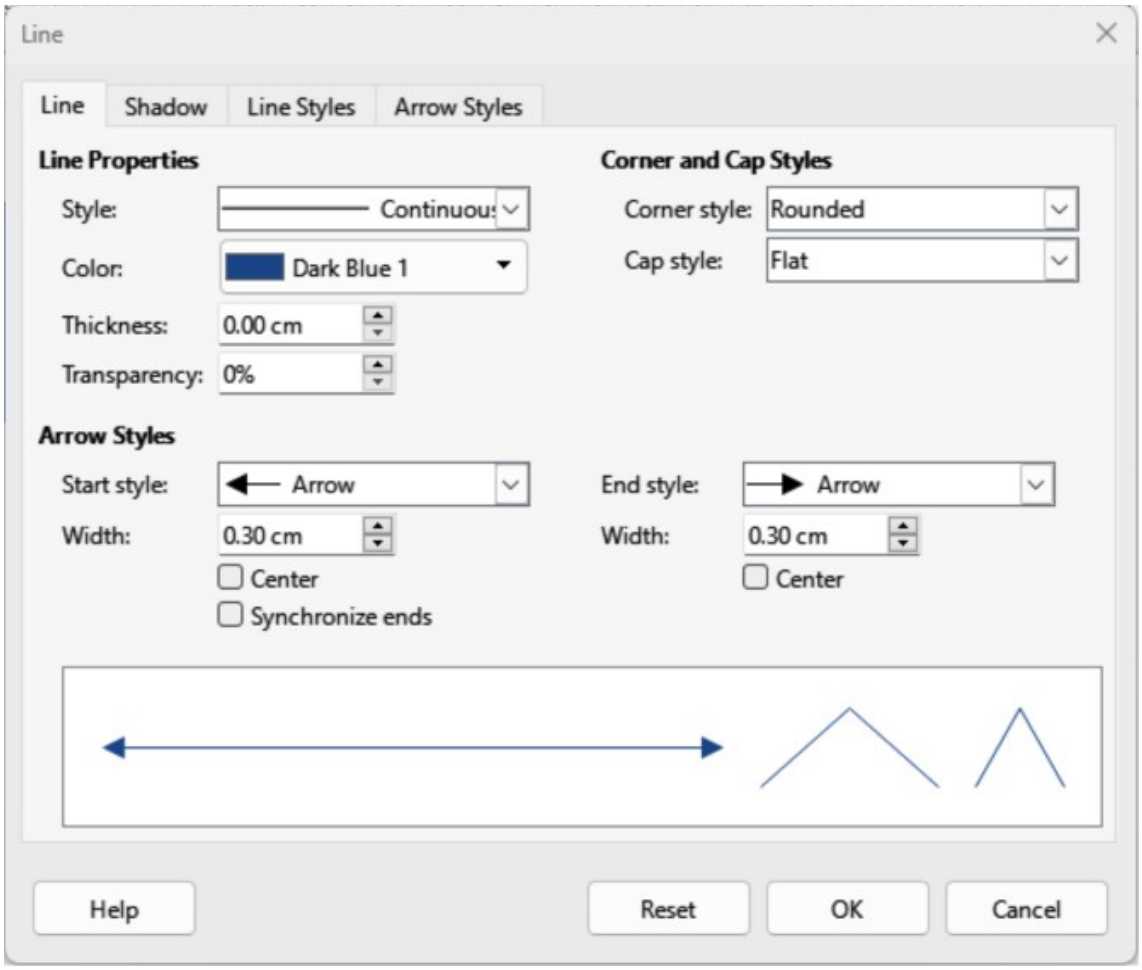

Figure 295: Line dialog — Line page

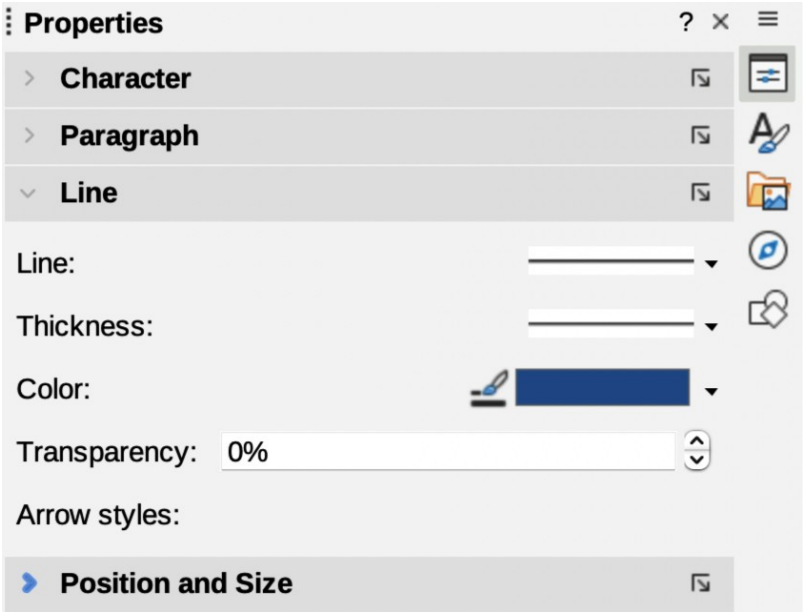

Figure 296: Line panel in Properties deck on Sidebar

Line panel on the Sidebar

1) Select a line, or object in the drawing.

2) Open the **Line** panel in the Properties deck on the Sidebar (Figure 296).

3) In **Line**, click on the triangle ▼ to the right of *Color* to open the last color palette used.

4) Select a color palette to use from the available palettes in the drop-down list.

5) Click on a color from the colors displayed in the color palette, or select a color that has been previously used from those displayed in *Recent*. The color palette closes and the selected line color is applied to the line or object border.

Line Color on the Line and Filling or Drawing toolbars

1) Select a line, or object in the drawing.

2) Click on the triangle ▼ to the right of **Line Color** on the Line and Filling toolbar, or the Draw toolbar to open the last color palette used.

3) Select a color palette to use from the available palettes in the drop-down list.

4) Click on a color from the colors displayed in the color palette, or select a color that has been previously used from those displayed in *Recent*. The color palette closes and the selected line color is applied to the line or object border.

Changing text color

Changing text color is very similar to changing the color of an area fill, object border, or line. The Text Formatting toolbar automatically opens and replaces the Line and Filling toolbar when text is selected in a drawing. If the Text Formatting toolbar does not open, go to **View > Toolbars** on the Menu bar and select **Text Formatting**.

Character dialog

1) Select a text box, or switch on text mode for a Draw object.

2) Highlight the text characters where the text color is going to be changed.

3) Open the Character dialog (Figure 297) using one of the following methods:

   – Go to **Format > Character** on the Menu bar.

   – Right-click on the highlighted text and select **Character** from the context menu.

4) Click on **Font Effects** to open the **Font Effects** page.

5) Click on the triangle ▼ to the right of *Font Color* to open the last color palette used.

6) Select a color palette to use from the available palettes in the drop-down list.

7) Click on a color from the colors displayed in the color palette, or select a color that has been previously used from those displayed in *Recent*. The color palette closes and the selected color is applied to the selected text.

8) Click **OK** to save the color change and close the Character dialog.

Character panel on the Sidebar

1) Select a text box, or switch on text mode for a Draw object.

2) Highlight the text characters where the text color is going to be changed.

3) Open the **Character** panel in the Properties deck on the Sidebar (Figure 297).

4) Click on the triangle ▼ to the right of **Font Color** to open the color palette last used.

5) Select a color palette to use from the available palettes in the drop-down list.

6) Click on a color from the colors displayed in the color palette, or select a color that has been previously used from those displayed in *Recent*. The color palette closes and the selected color is applied to the selected text.

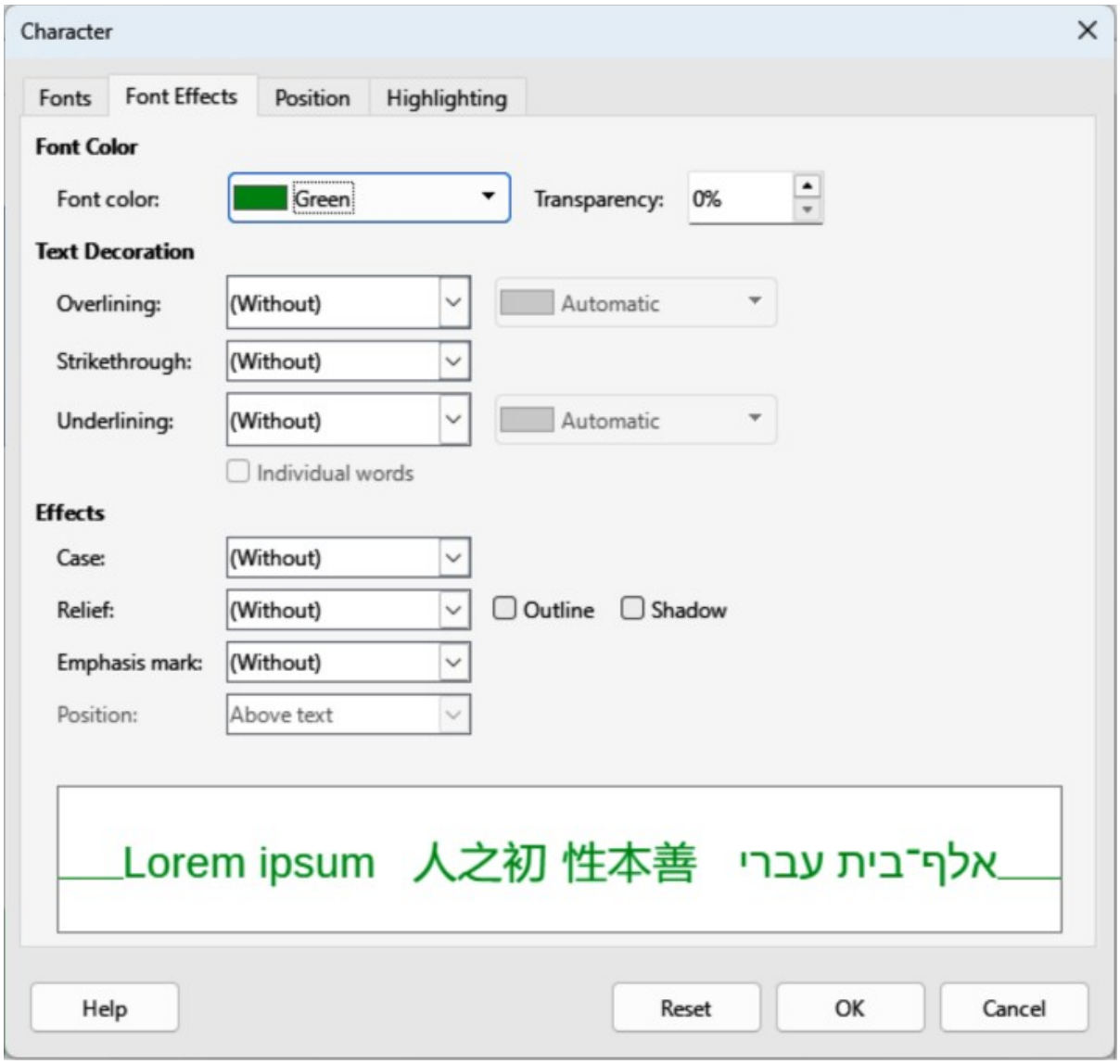

Figure 297: Character dialog — Font Effects page

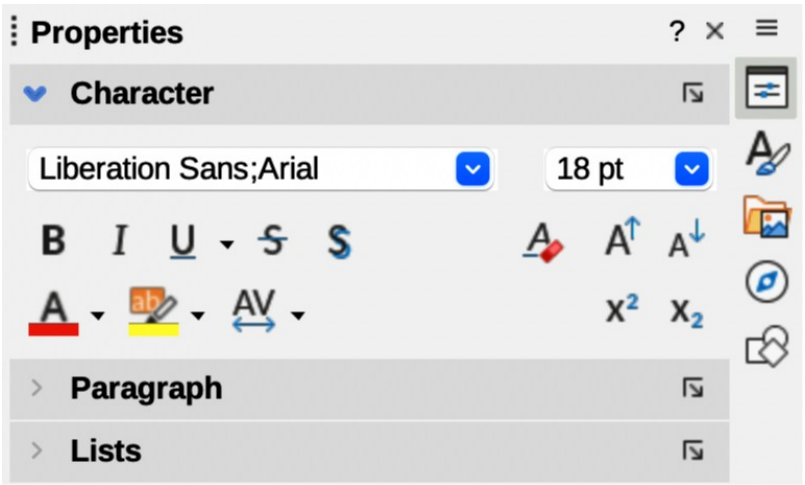

Figure 297: Character panel in Properties deck on Sidebar

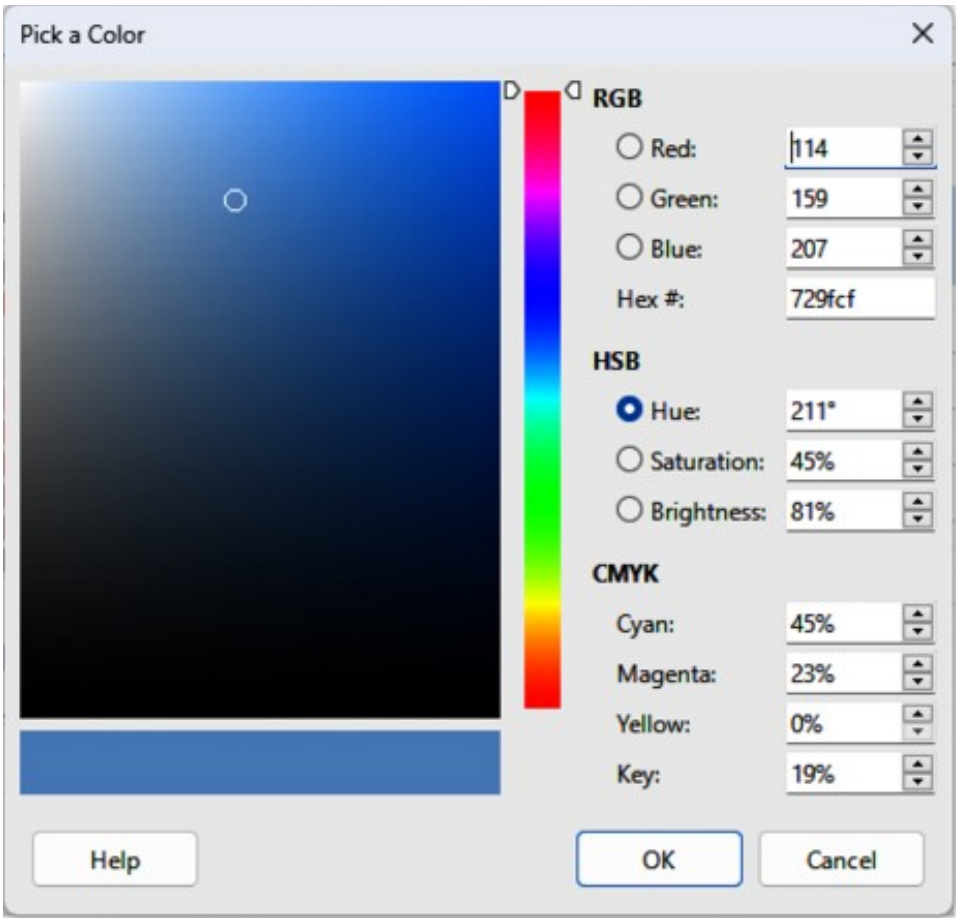

Figure 298: Pick a Color dialog

Creating colors

Notes

When using the Line or Character dialog to open the Pick a Color dialog, the custom color created cannot be saved into the **Custom Palette**, or renamed with a more meaningful name. The custom color created is named using the hex value that is displayed in the Pick a Color dialog. Only the Area dialog has the ability to rename custom colors and save custom colors into the **Custom Palette**.

LibreOffice uses the RGB color model for printing in color. The RGB values of a selected color are displayed the preview boxes.

Using Pick a Color dialog

1) Select an object, or text and open the Pick a Color dialog (Figure 298) using one of the following methods:

   – Open the Area dialog, then click on **Color** to open the **Color** page and click on **Pick**.

   – Open the Area panel in Properties deck on the Sidebar, click on the triangle ▼ to the right of **Fill Color** to open the color palette and click on **Custom Color** at the bottom of the color palette.

   – Open the Line dialog, then open a color palette in **Color** and click on **Custom Color** at the bottom of the color palette.

– Open the **Line** panel in Properties deck on the Sidebar, click on the triangle ▼to the right of **Line Color** to open the color palette and click on **Custom Color** at the bottom of the color palette.

– Open the Character dialog, then open a color palette in **Font** color and click on **Custom Color** at the bottom of the color palette.

– Open the **Character** panel in Properties deck on the Sidebar, click on the triangle ▼to the right of **Font Color** to open the color palette and click on **Custom Color** at the bottom of the color palette.

2) Select a color range on the vertical color bar in the Pick a Color dialog that approximately matches the custom color being created.

3) Click and drag the small target circle in the color box until the color matches the custom color required. The values for RGB, HSB and CMYK change as the small target circle is dragged around the color box helping to create the exact color, if the color values are known.

4) Alternatively, if the color values, or hex number, are known, enter these values in the appropriate text box. The values in all the text boxes change to match the new values. For example, after entering HSB values, the RGB, CMYK and Hex values also change to match.

5) Click **OK** to save the changes and close the Pick a Color dialog.

Using Area dialog

1) Open the Area dialog and click on **Color** to open the **Color** page (Figure 293 on page 312).

2) In **New**, enter the RGB values or, if known, the Hex value into the text boxes. The color changes in the preview box to match the values entered.

3) Alternatively, in **New**, use the minus and plus signs for the RGB values to decrease or increase the values. The color changes in the preview box to match the values entered.

4) Click **OK** to change the color and close the Area dialog.

Adding custom colors

1) Make sure the Area dialog is open at the **Color** page (Figure 293 on page 312).

2) Select the custom color that is displayed in *Recent Colors*.

3) In **Custom Palette**, click on *Add* to open a Name dialog.

4) Enter a new name for the color in the text box.

5) Click **OK** to save the changes and close the Name dialog. The custom color appears in the **Custom Palette**.

6) Click **OK** to close the Area dialog.

Renaming custom colors

Only a custom color can be renamed using the Area dialog as follows:

1) Make sure the Area dialog is open at the **Color** page (Figure 293 on page 312).

2) Select the custom color that is displayed in the **Custom Palette**.

3) Click on **Add** to open a Name dialog.

4) Enter a new name for the custom color in the text box,

5) Click **OK** to save the changes and close the Name dialog. A new custom color appears in the **Custom Palette**.

6) Click **OK** to close the Area dialog.

Notes

Renaming a custom color does not actually rename the custom color, but adds a new custom color to the **Custom Palette**.

Before renaming, deleting, a custom color, make sure the custom color is NOT being used in another LibreOffice document.

It is important to use a memorable names for custom colors so that the custom color is easily recognized in the **Custom Palette**. By default, a custom color is given a hex number, which makes it difficult identifying colors when there is more than one custom color.

Deleting custom colors

Only a custom color can be deleted using the Area dialog as follows:

1) Make sure the Area dialog is open at the **Color** page (Figure 293 on page 312).

2) Select the custom color that is displayed in the **Custom Palette**.

3) Click on **Delete**. There is no confirmation given when deleting custom colors.

4) Click **OK** to close the Area dialog.

Bézier curves

Bézier[2] curves can be used in Draw. A curve is defined by means of a start point, an end point, and, where necessary, control points. For points on the curve the terms **Nodes** and **Anchors** are often used. For more information and an explanation of the mathematical background of Bézier curves, see https://en.wikipedia.org/wiki/Bézier_curve.

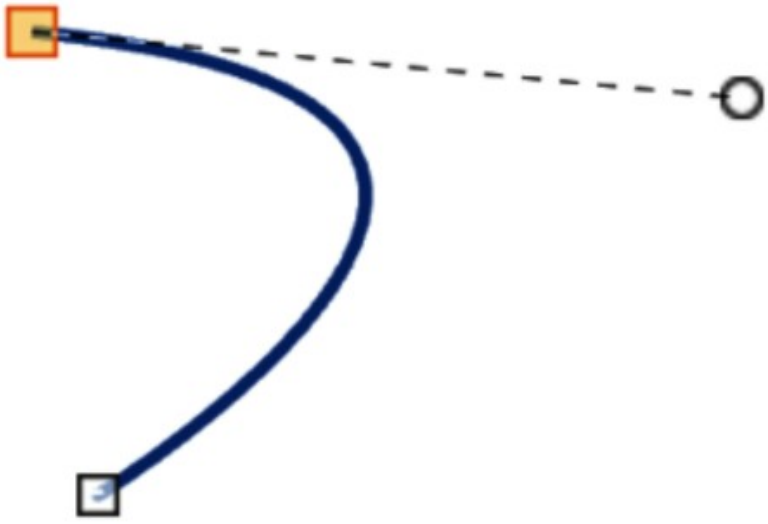

Figure 299: Example Bézier curve

2 Bézier curves were invented by Pierre Bézier, an engineer working with the Renault car manufacturer, who developed the technique in the 1960s. The technology was intended to make modeling the surface of vehicles easier.

Bézier curves are very useful for experimenting with the shape and form of curves. In point mode, the curve alignment can be changed by dragging the points with the cursor. The example shown in Figure 299 displays an example of a Bezier curve with the start point selected and a control point attached to the start point by a dashed line. Moving control points changes the curvature and shape of a Bezier curve.

Drawing Bézier curves

1) Click on **Curve** in the **Curves and Polygons** panel in the Shapes deck on the Sidebar, or **Curves and Polygons** on the Drawing toolbar.
2) Click at the start point for the curve and drag the cursor to the approximate position of the end point for the curve.
3) Release the cursor and drag the end point of the curve to its end position.
4) Double-click when the end position of the curve is reached and a curve is drawn. The arc of the curve is determined by the distance dragged to create the end point.
5) Switch to points editing mode using one of the following methods:
   – Go to **Edit > Toggle Edit Point Mode** on the Menu bar.
   – If added to the toolbar, click on **Toggle Edit Point Mode** on the Drawing toolbar.
   – Use the keyboard shortcut *F8*.

Note

The Edit Points toolbar does not open until a point has been selected on a curve.

6) Open the Edit Points toolbar (Figure 300) using one of the following methods.
   – Go to **View > Toolbars** on the Menu bar and select **Edit Points**.
   – Use the keyboard shortcut *F8*.
   – If added to the toolbar, click on **Points** on the Drawing toolbar.
7) Click once on the curve to display the start and end points. The start point of the curve is larger than the end point.
8) Click on a start or end point to display the control points. Control points appear at the end of a dashed line connected to the selected point, as shown in the following examples.
9) Click on the control point and drag it to a new position to change the shape of the curve.
10) When the shape of the curve is satisfactory, release the cursor to fix the curve.
11) Click anywhere on the workspace to deselect the curve and stop editing points.

Figure 300: Edit Points toolbar

Edit Points tools

After the initial opening of the Edit Points toolbar, when an object is selected that has been converted to a curve or polygon, the toolbar is displayed. The tools available on the Edit Points toolbar allow the editing of a Bézier curve and changing of the curve shape. A point on a Bézier curve has to be selected for all the tools on the Edit Points toolbar to become available.

Move Points

Click and drag on a point to move it to another location.

– The curve on both sides of the point follows the movement and changes shape as the selected point changes position.

– Click and drag on the curve between points to move the entire curve without distorting the form.

Insert Points

Activates the insert mode when selected and inserts smooth points onto a curve. Insert mode remains active after inserting points. Select **Move Points** to deactivate insert mode.

– The inserted point can be moved while insert mode is activated.

– If a corner or symmetrical point is required, insert a smooth point first and convert the point to a corner or symmetrical point.

Delete Points

Deletes selected points. If several points are to be deleted, hold down the *Shift* key whilst selecting points and before clicking on **Delete Points**.

Figure 301: Example converting curved segment to line

Figure 302: Example corner point

Convert To Curve

Converts a curve into a straight line or a straight line into a curve (Figure 301).

– Select a single point and the curved segment after the point converts to a straight line, or coverts a straight line segment to a curve after the point.

– When converting a segment from a curve to a straight line, each point at each end of the segment becomes a control point similar to the start or end point.

– When converting a segment from a straight line to a curve, each control point at each end of the segment becomes a smooth point.

Close Bézier

Closes a freeform line or curve by connecting the start point with the end point creating an object with area fill.

Split Curve

Splits a curve into two or more curves. Select a point or points and click on **Split Curve** to create separate segments of a curve. Deselect the curve, then select a segment to move or edit it.

Corner Point

Converts a selected point into a corner point (Figure 302). Corner points have two movable control points independent from each other allowing a corner to be created in a curve.

Smooth Transition

Converts a corner or symmetrical point into a smooth point (Figure 303). Both control points are parallel aligned and can only move simultaneously. The control points may differ in length, allowing the curvature degree to be varied.

Symmetric Transition

Converts a corner point or a smooth point into a symmetrical point (Figure 304). Both control points are parallel aligned having the same length. These control points can only be moved simultaneously and the degree of curvature is the same in both directions.

Eliminate Points

Allows selection of several points before using the **Delete Points** tool. This is useful when deleting a straight line segment to create a complete curve.

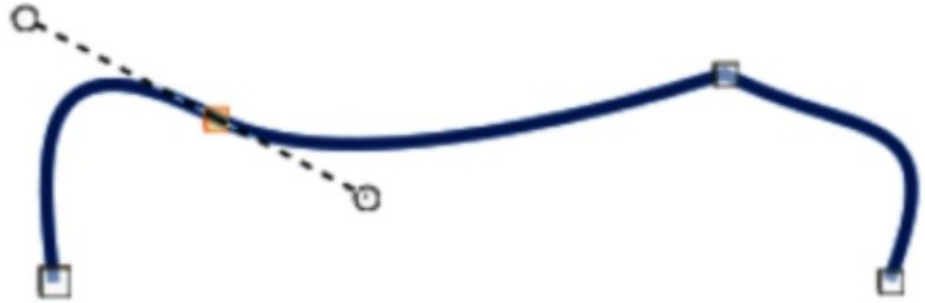

Figure 303: Example smooth transition point

Figure 304: Example symmetric transition point

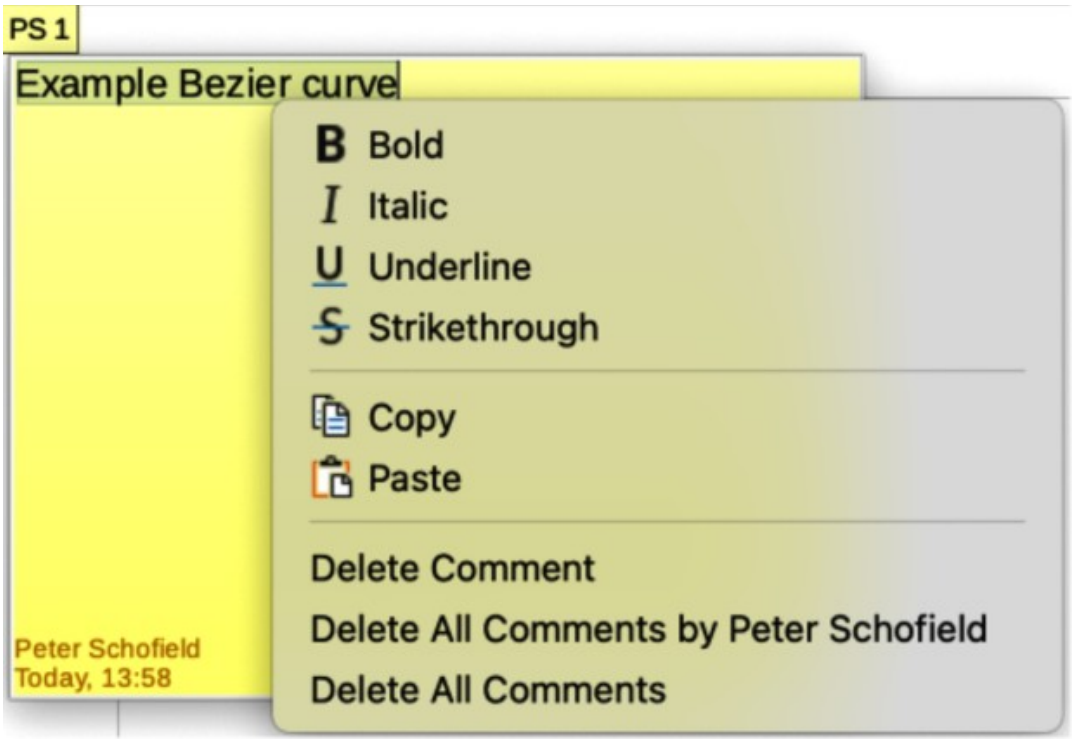

Figure 305: Example comment in Draw

Adding comments

Comments in Draw are similar to comments in the Writer, Calc and Impress modules. For more information about adding, navigating, and replying to comments, see the *Getting Started Guide*.

Comments in Draw cannot be printed. To reply to a comment in Draw, a new comment has to be added to the drawing.

1) Go to **Insert > Comment** on the Menu bar and a comment box (Figure 305) appears in the upper left-hand corner of a drawing. Draw automatically adds the user name and date at the bottom of the comment and places a comment marker on the drawing page.
2) Type or paste a comment into the comment text box.
3) To apply basic formatting to the text, right-click on the text and select the formatting option from the context menu.
4) To delete a comment, use one of the following methods:
   – Right-click in the comment box and select **Delete** from the context menu.
   – Right-click on the comment marker and select **Delete** from the context menu.
   – Click on the triangle ▼ in the bottom right of the comment box and select **Delete** from the context menu.
5) To move a comment, click on the comment marker and drag it to a new position.
6) To hide comments, use one of the following methods:
   – Go to **View** on the Menu bar and deselect **Comments** to hide the comment and the comment marker.
   – Click on the drawing outside of the comment to hide the comment. The comment marker remains visible.

7) To show comments, go to **View > Comments** on the Menu bar and click on the comment marker.

Note

For the user name and initials to appear in a comment, enter the user data in **Tools > Options > LibreOffice > User Data** dialog (macOS **LibreOffice > Preferences > LibreOffice > User Data**). If more than one person edits the document, each author is automatically allocated a different background color.

Coordinate system

X and Y axes

The x-axis is the horizontal position of an object and the y-axis is the vertical position of an object. The rulers do not show a minus sign if there are negative coordinates. However, the minus sign for negative coordinates is shown in the position field in the **Status Bar** and the Position and Size dialog.

Workspace

The Draw **Workspace** is larger than the drawing page. The area outside the drawing page is one page width right and left and a half page above and below the drawing page. The size of the drawing page is indicated by highlighted portions in the horizontal and vertical rulers.

Objects in Draw can be drawn partly or wholly outside the drawing page and these objects are saved with the drawing. However, when the drawing is printed or exported, any object or portion of an object not on the drawing page is not included. This allows the **Workspace** area around the drawing page to be used for drafts when creating objects.

Object position

The coordinates of objects and snap guides are shown relative to the origin. The default origin for coordinates (0.00/0.00 position) is the top-left corner of the drawing page without margins or the top left corner of the drawing page where the margins intersect. To change the default origin, click and drag the intersection of the rulers in the top left corner of the **Workspace** to the desired position. Guide lines appear as the intersection is dragged from its default origin to its new position. This origin setting is only for the current view and is not saved in the document.

The area inside the default origin is the area used for the grid when the options **Snap to Grid** and **Display Grid** are selected.

To reset the default origin back to its original setting at the top-left corner of the page, double-click in the top-left corner on the **Workspace** where the horizontal and vertical rulers meet.

Accuracy

Draw internally uses integer values in 1/100 mm. This means that it may not be possible to get an exact position for 1/8 inch. Also, many dialog fields are restricted to two decimals.

To work with the maximum possible accuracy, go to **Tools > Options > LibreOffice Draw > General** (macOS **LibreOffice > Preferences > LibreOffice Draw > General**) and set the option **Unit of measurement** to *Millimeter*. The rulers then show metric units after this option has been selected, To use another measurement unit for the rulers, right-click on a ruler and select the measurement unit from the context menu. The horizontal and vertical rulers can have different measurement units.

Draw Guide 24.8

Chapter 12, User Interface Variants

Introduction

By default, commands and tools used in Draw are grouped in a user interface consisting of cascading menus and toolbars. The functions and use of these cascading menus and toolbars are described in previous chapters of this user guide.

This chapter describes the user interface variants that are available for Draw. A user has the option to select a user interface that suits their requirements and methods of creating drawings in Draw.

Note

When changing the user interface, the variant can be applied only to Draw, or applied to all the modules in LibreOffice.

Selecting user interface variants

1) Go to **View > User Interface** on the Menu bar to open the Select Your Preferred User Interface dialog (Figure 306).
2) In **UI variants**, select the required variant. An example of the selected user interface is shown in the **Preview** box with a short description.
3) Click on **Apply to Draw** to apply the selected user interface to LibreOffice Draw only.
4) Alternatively, click on **Apply to All** to apply the selected user interface to all LibreOffice modules. The LibreOffice window changes to match the selected user interface.
5) Click on **Close** to close the dialog.

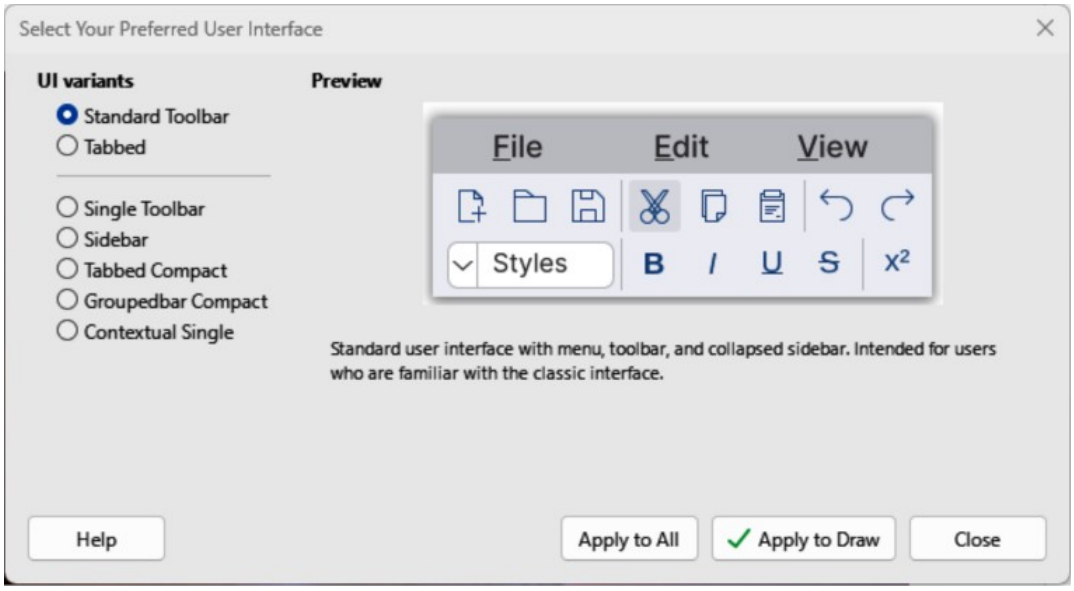

Figure 306: Select Your Preferred User Interface dialog

Note

If the option **Enable experimental features** has been selected in the To**ols > Options > Advanced** (macOS **LibreOffice > Preferences > LibreOffice > Advanced**), several experimental variants appear in **UI variants**. Being experimental, these user interfaces are not described in this chapter.

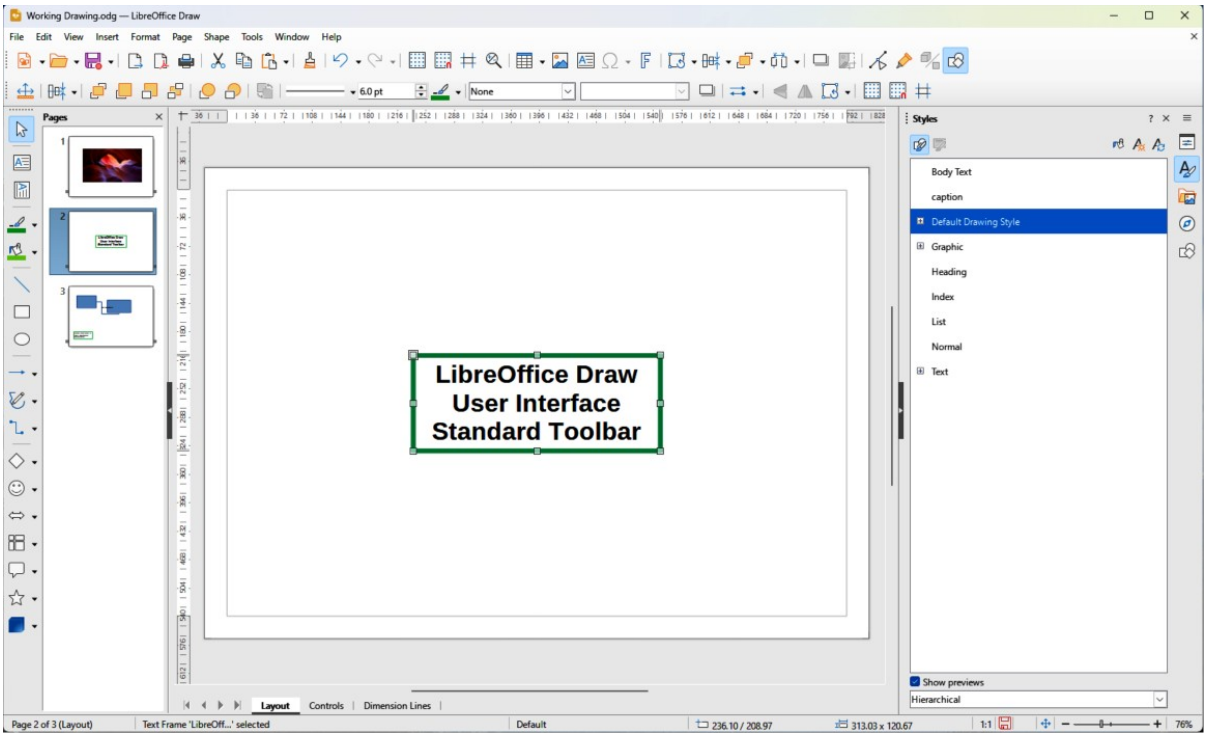

Figure 307: Standard Toolbar user interface

Standard Toolbar

The **Standard Toolbar** user interface is the default view when LibreOffice is installed on a computer and Draw is opened for the first time. For more information on the Draw Workspace, see Chapter 1, Introducing Draw. Figure 307 shows an example of the default **Standard Toolbar** user interface in Draw and consists of the following:

- Menu bar at the top of the **Workspace**.
- Standard, and Line and Filling toolbars positioned below the Menu bar.
- Drawing toolbar positioned vertically on the left side of the **Workspace**.
- Sidebar on the right of the **Workspace**.

Tabbed

Note

When using the **Tabbed** user interface, Draw toolbars are no longer visible. If required, it is possible to open toolbars by going to **View > Toolbars** on the Menu bar, or select **Toolbars** on the quick menu.

The **Tabbed** user interface provides a user interface that is similar to other office software applications, for example Microsoft Office. The user interface tabs consist of tools grouped by context. This context changes automatically depending on the LibreOffice module and the object selected. Figure 308 shows an example of the default **Workspace** view using the **Tabbed** user interface in Draw.

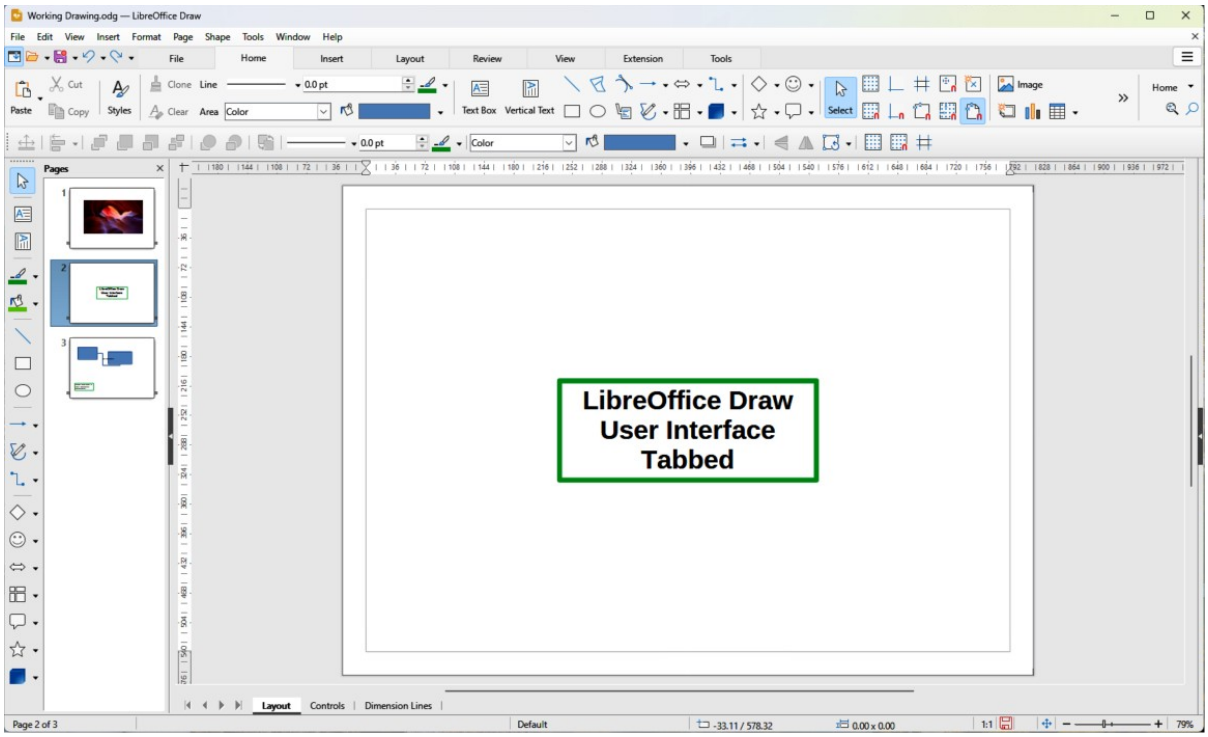

Figure 308: Tabbed user interface

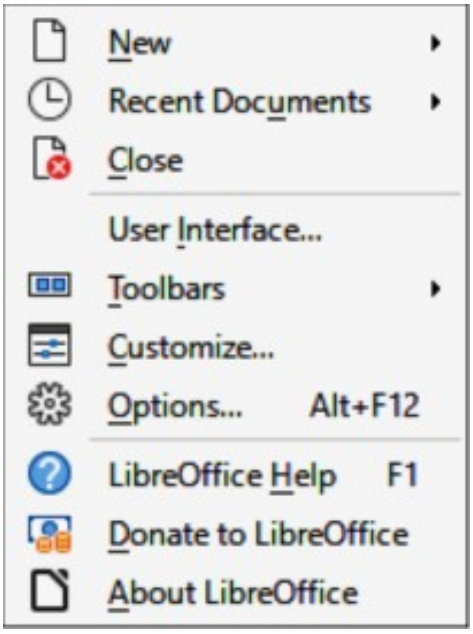

Figure 309: Tabbed user interface — Quick Menu

The **Tabbed** user interface includes a menu bar, tab bar, and tool icons grouped in context for use in Draw. If the tool icons on a tab page exceed the width of the Draw window, a double chevron **>>** appears at the right end of the tab row. Click on this double chevron **>>** to display the remaining options for the **Tabbed** user interface.

At the left end of the Tab bar, icons are available giving access to some commonly used tools — **Menubar**; **Open**; **Save**; **Undo**; **Redo**. Clicking on **Menubar** at the left end of the tab bar either hides or opens the main menu bar at the top of the **Workspace**.

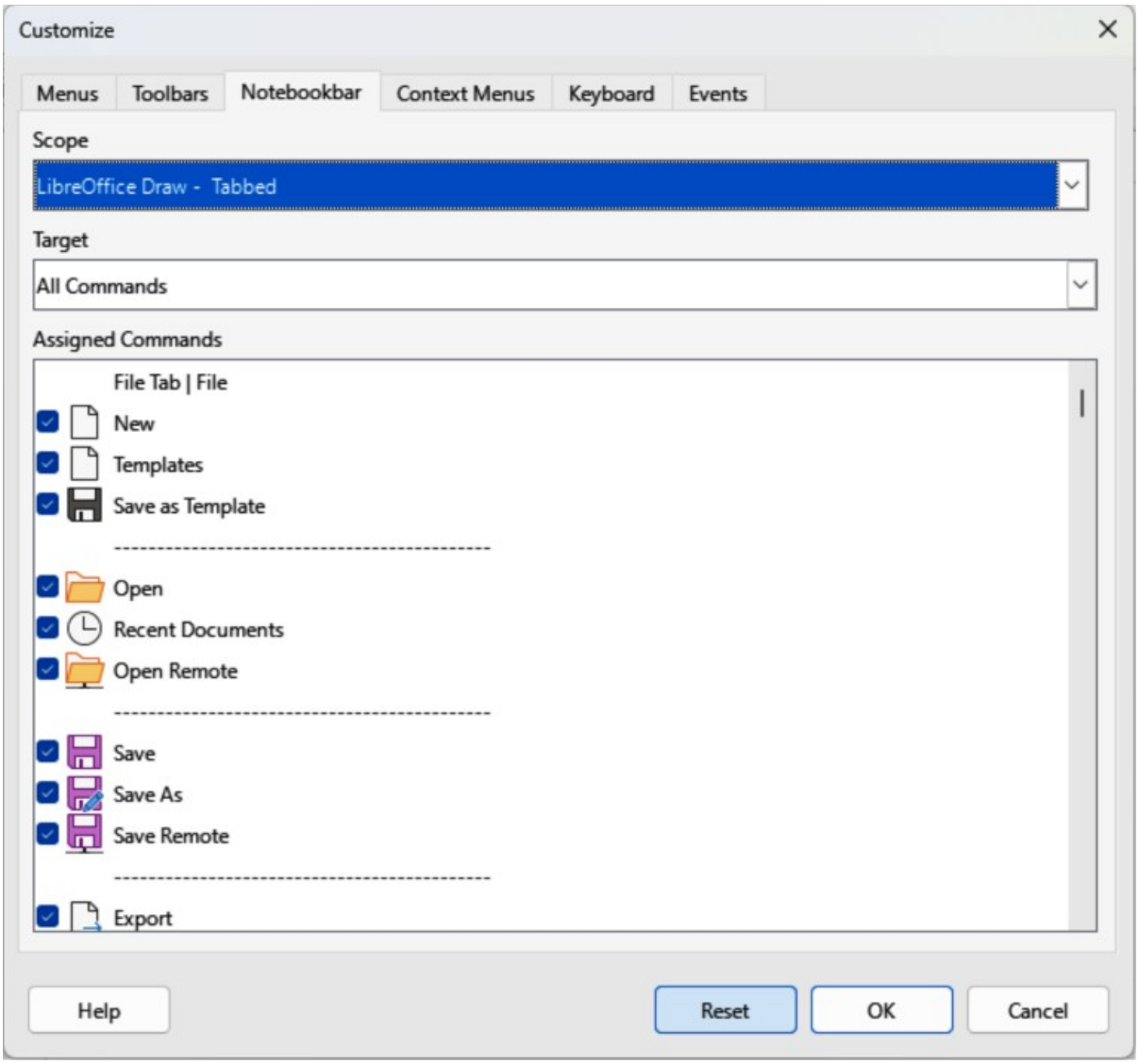

Figure 310: Customize dialog — Notebookbar page

On the right side at the top of the **Workspace**, click on the 3 horizontal lines (≡) to access commonly used commands and links, as shown by the example in Figure 309. Some commands have context menus with more commands available. This is indicated by a triangle ►, or a single chevron **>,** on the right of a command.

The Tabbed user interface is customized using the **Notebookbar** page of the Customize dialog (Figure 310) to show or hide the individual tools on the various tabs. Go to **Tools > Customize** on the Menu bar to open the Customize dialog. For more information on customization, see the *Getting Started Guide* and the *Writer Guide*.

Fixed tabs

File tab

The **File** tab (Figure 311) provides commands to create new documents and manage existing documents. On the right of the **File** tab there are two menus as follows:

- **File** — contains the same commands as the tools available on the tab.
- **Help** — provides links to a variety of resources.

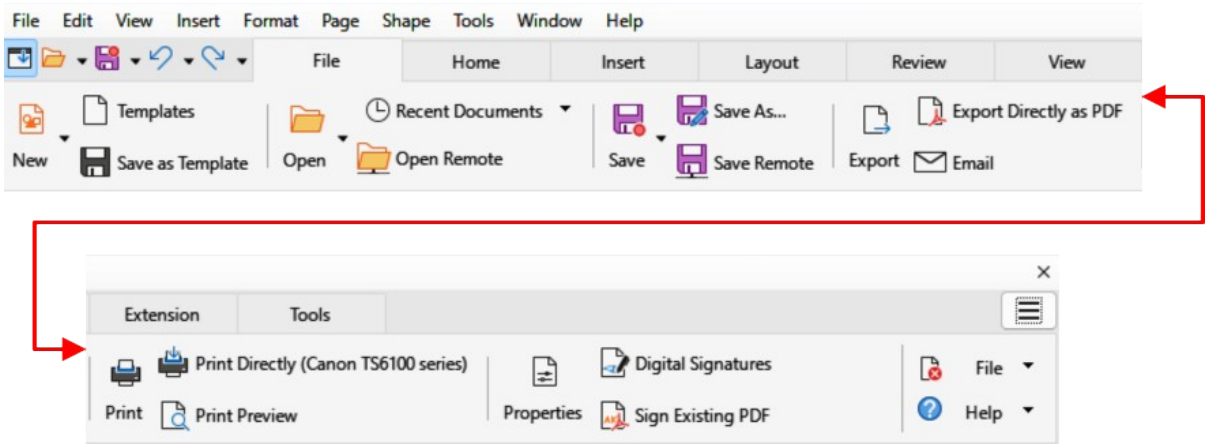

Figure 311: Tabbed user interface — File tab

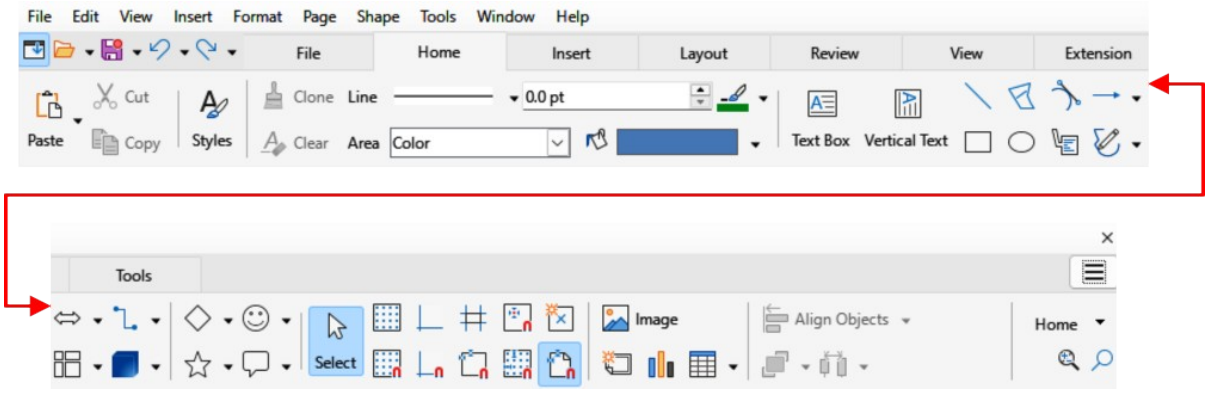

Figure 312: Tabbed user interface — Home tab

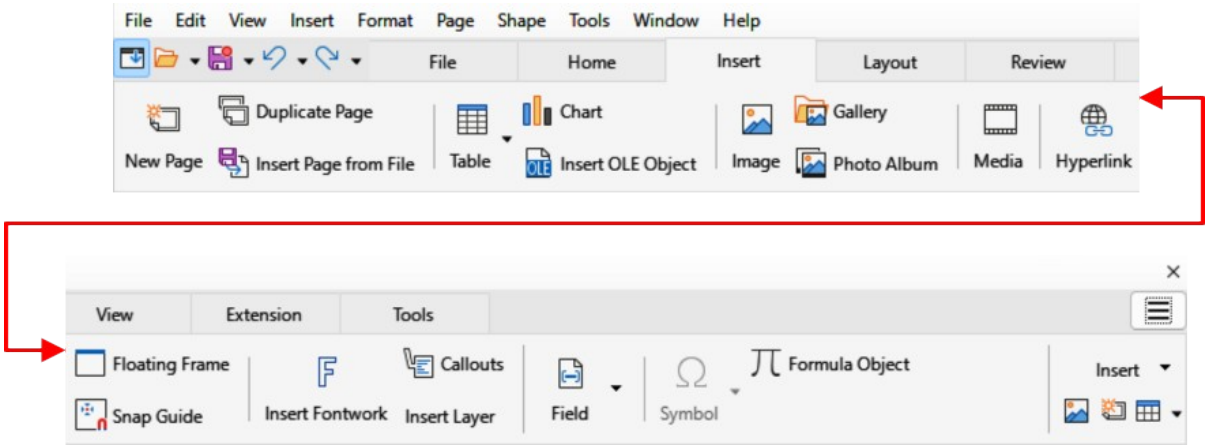

Figure 313: Tabbed user interface — Insert tab

Home tab

The **Home** tab (Figure 312) provides tools and commands for cutting, copying, pasting, inserting, and formatting all types of objects such as images, tables, charts, text, and so on. Also, drawing styles can be applied and updated to match drawing requirements. At the right end of the **Home** tab bar, click on **Home** to open a drop-down menu containing additional tools.

Insert tab

The **Insert** tab (Figure 313) provides tools and commands for inserting many types of objects such as images, tables, charts, and so on. At the right end of the **Insert** tab bar, click on **Insert** to open a drop-down menu with some of the same tools.

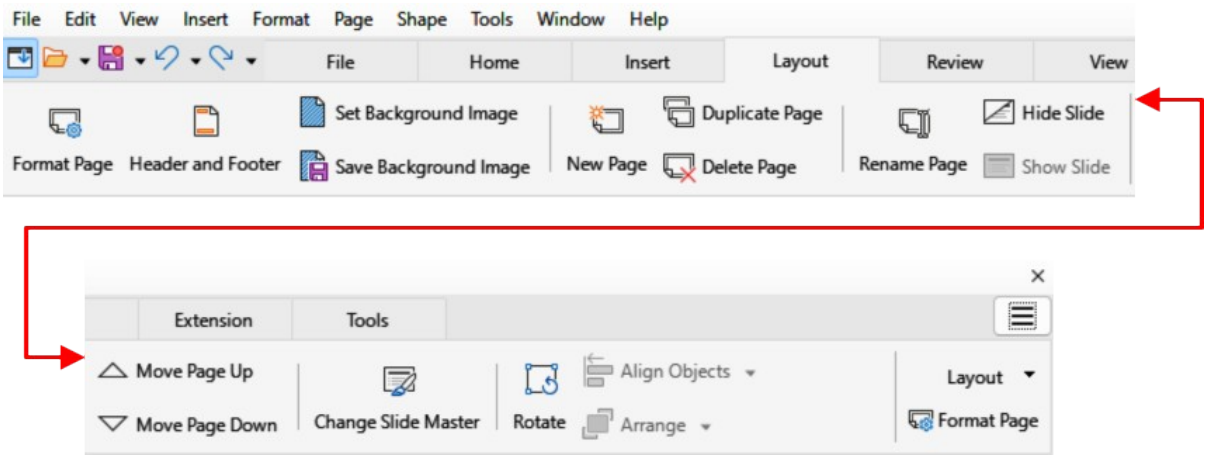

Figure 314: Tabbed user interface — Layout tab

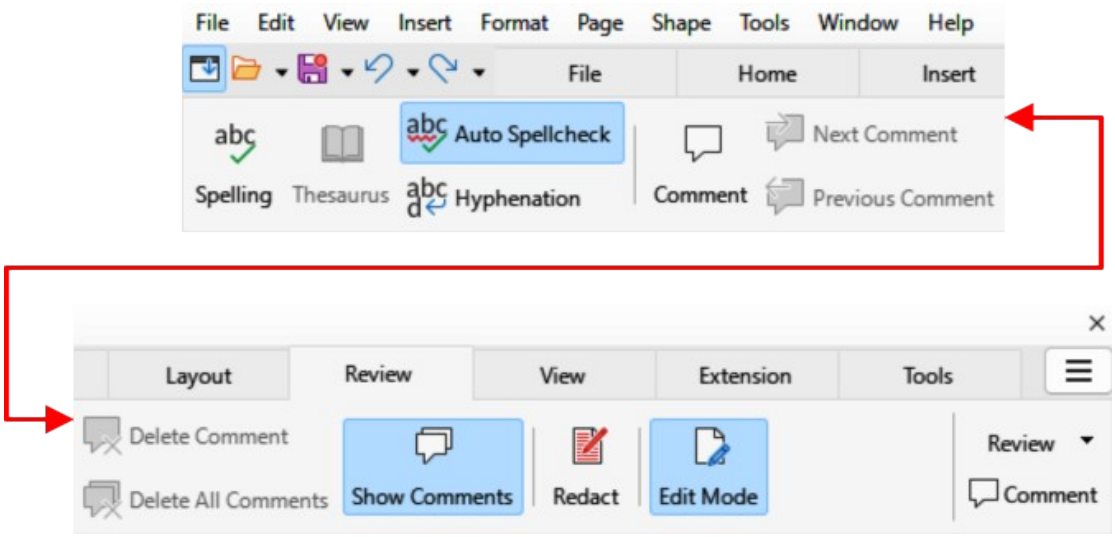

Figure 315: Tabbed user interface — Review tab

Layout tab

The **Layout** tab (Figure 314) provides tools and commands for creating a drawing layout. At the right end of the **Layout** tab bar, click on **Layout** to open a drop-down menu with some of the same tools.

Review tab

The **Review** tab (Figure 315) provides tools and commands for spell checking text, inserting and deleting review comments, and redaction. At the right end of the **Review** tab bar, click on **Review** to open additional text editing commands. Some of these commands appear only if *Asian* or *Complex Text Layout* are selected in **Tools > Options > Language Settings > Languages** (macOS **LibreOffice > Preferences > Language Settings > Languages**).

View tab

The **View** tab (Figure 316) provides tools and commands for displaying a drawing on screen. At the right end of the **View** tab bar, click **View** to open a drop-down menu providing additional tools for displaying a drawing screen.

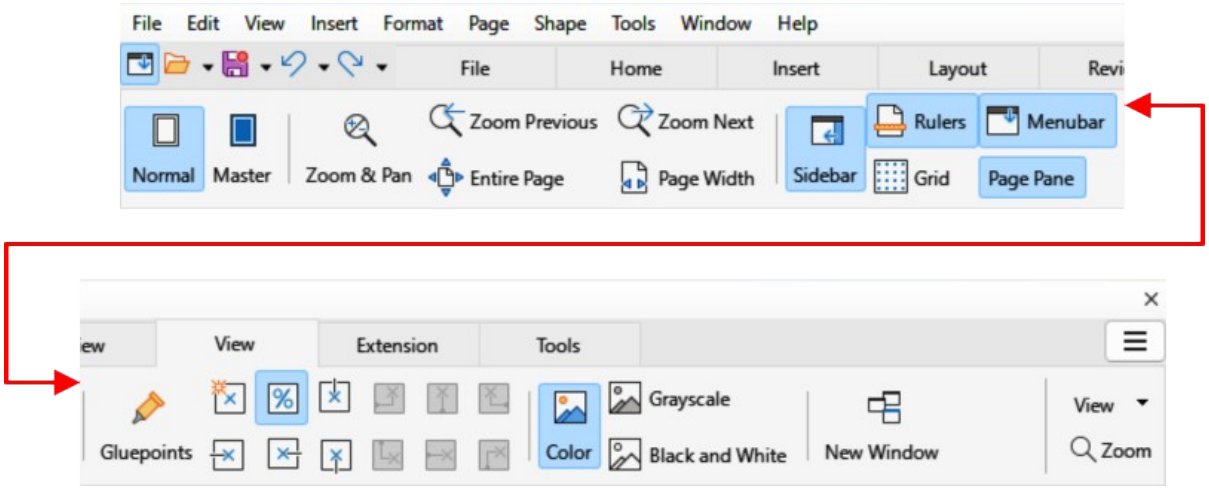

Figure 316: Tabbed user interface — View tab

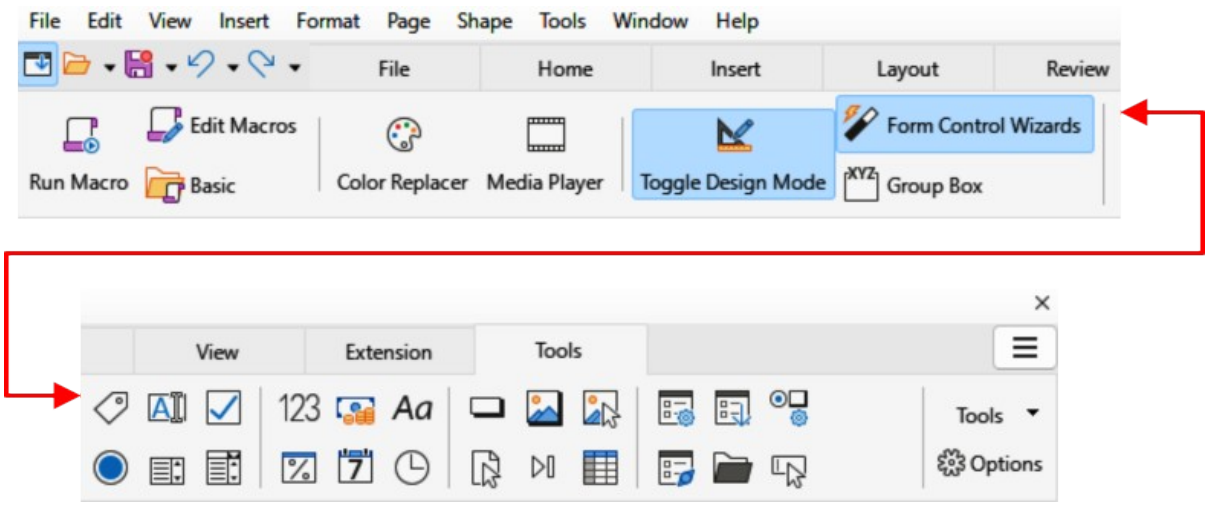

Figure 317: Tabbed user interface — Tools tab

Extension tab

The **Extension** tab is a fixed tab containing only the **Extension Manager**. When selected, the Extension Manager dialog opens allowing for installation and deletion of extensions that are compatible with LibreOffice.

Tools tab

The **Tools** tab (Figure 317) provides tools for macros; color replacer; media player; and so on. At the right end of the **Tools** tab bar, click on **Tools** to open a drop-down menu with some of the same tools, plus extra tools for organizing macros and dialogs, image map, data sources, filter settings, extension manager, and options.

Additional tabs

The following additional tabs only open when a specific type of object in a drawing is selected. These additional tabs are displayed between the **View** and **Extension** tabs.

Draw tab

The **Draw** tab (Figure 318) is only available when a draw object is selected. It provides tools and commands for editing, transforming, grouping, aligning, and distributing draw objects. At the right end of the **Draw** tab bar, click on **Draw** to open a drop-down menu with a similar set of tools and commands for editing, transforming and converting draw objects.

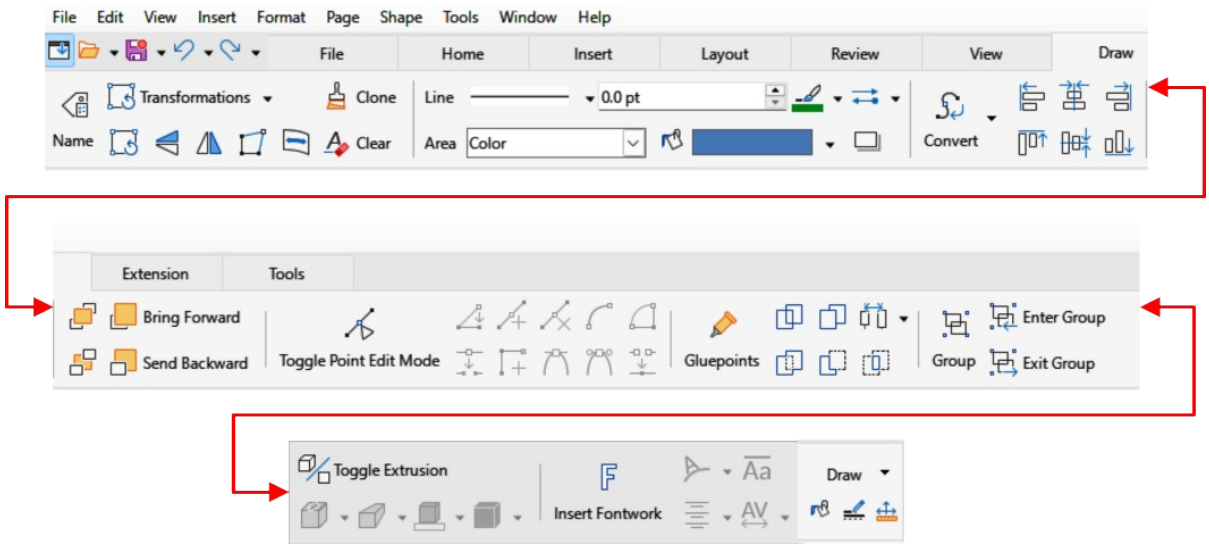

Figure 318: Tabbed user interface — Draw tab

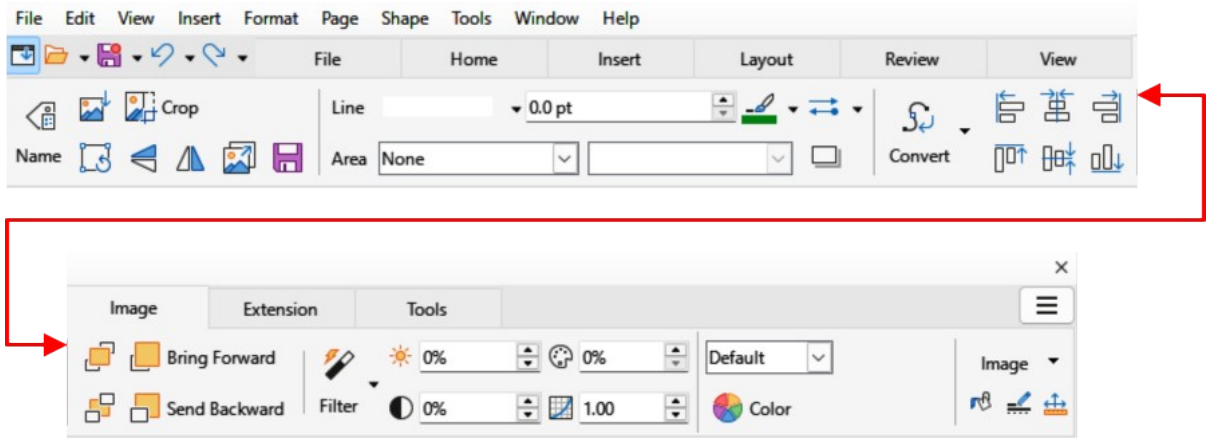

Figure 319: Tabbed user interface — Image tab

Image tab

The **Image** tab (Figure 319) is only available when an image is selected such as a photograph, Fontwork, OLE object, or QR code. It provides tools for working with images, such as cropping, borders, area styles, colors, and so on. At the right end of the **Image** tab bar, click on **Image** to open a drop-down menu with some of the same tools.

Object tab

The **Object** tab (Figure 320) only becomes available when a compatible object is selected in a drawing, for example a chart. It provides tools to position, resize, select colors, and so on for the selected compatible object. At the right end of the **Object** tab bar, click **Object** to open a menu with extra tools and commands matching the type of object selected.

Table tab

The **Table** tab (Figure 321) only becomes available when a compatible table is selected in a drawing. It provides tools to position, resize, select colors, and so on for the selected table. At the right end of the **Table** tab bar, click on **Table** to open a drop-down menu with extra tools for editing a table.

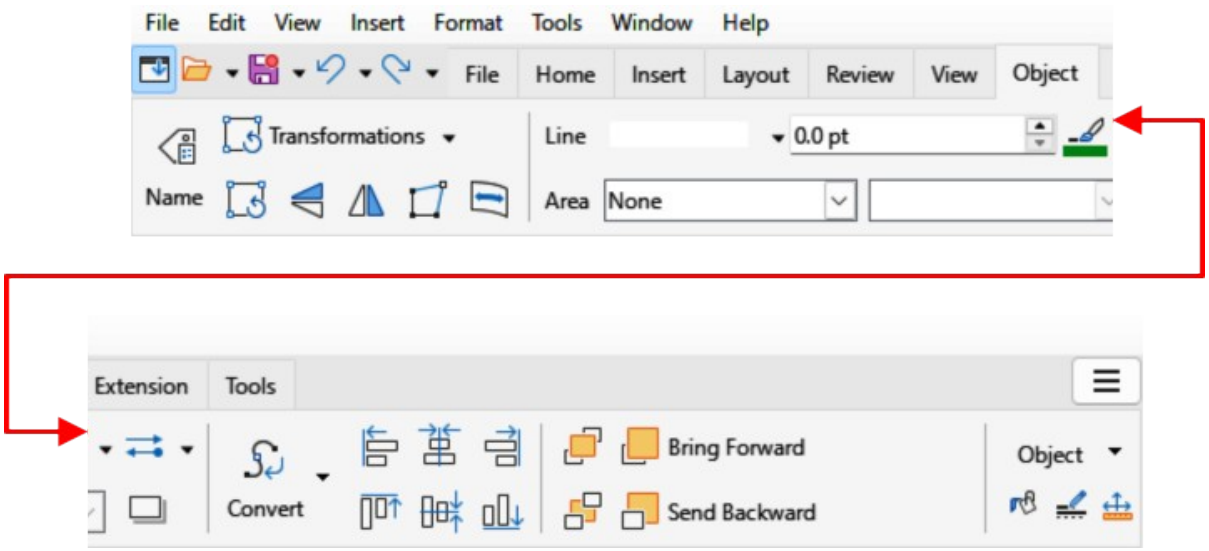

Figure 320: Tabbed user interface — Object tab

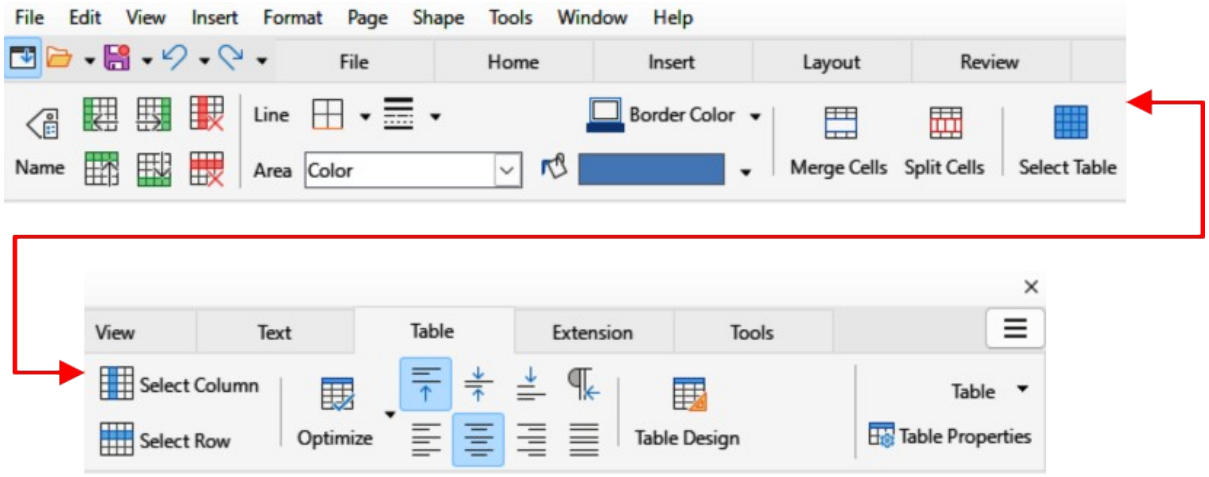

Figure 321: Tabbed user interface — Table tab

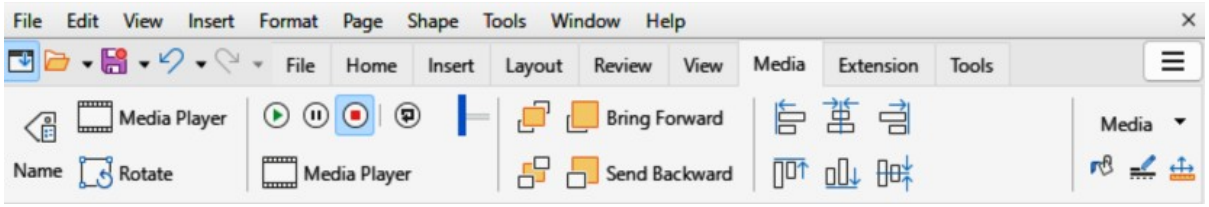

Figure 322: Tabbed user interface — Media tab

Media tab

The **Media** tab (Figure 322) only becomes available when a media object is selected in a drawing. It provides tools for positioning and running an audio or video file. At the right end of the **Media** tab bar, click on Media to open a drop-down menu with extra tools for editing a media object.

Single Toolbar & Sidebar

When selected, the **Single Toolbar** and **Sidebar** user interfaces (Figure 323 and 324) only show the Menu bar with no toolbars. However, toolbars can be added to the user interface by going to **View > Toolbars** on the Menu bar and selecting the required toolbar from the options available. For more information on toolbars, see Appendix B, Toolbars and the *Getting Started Guide*.

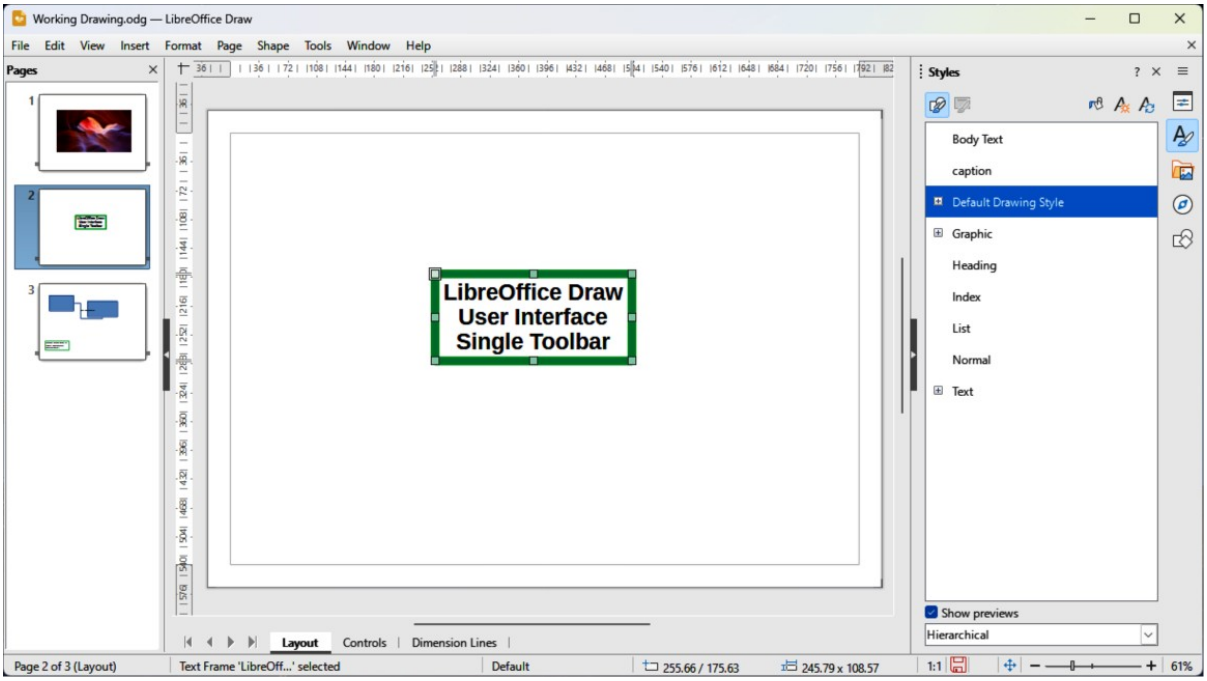

Figure 323: Single Toolbar user interface

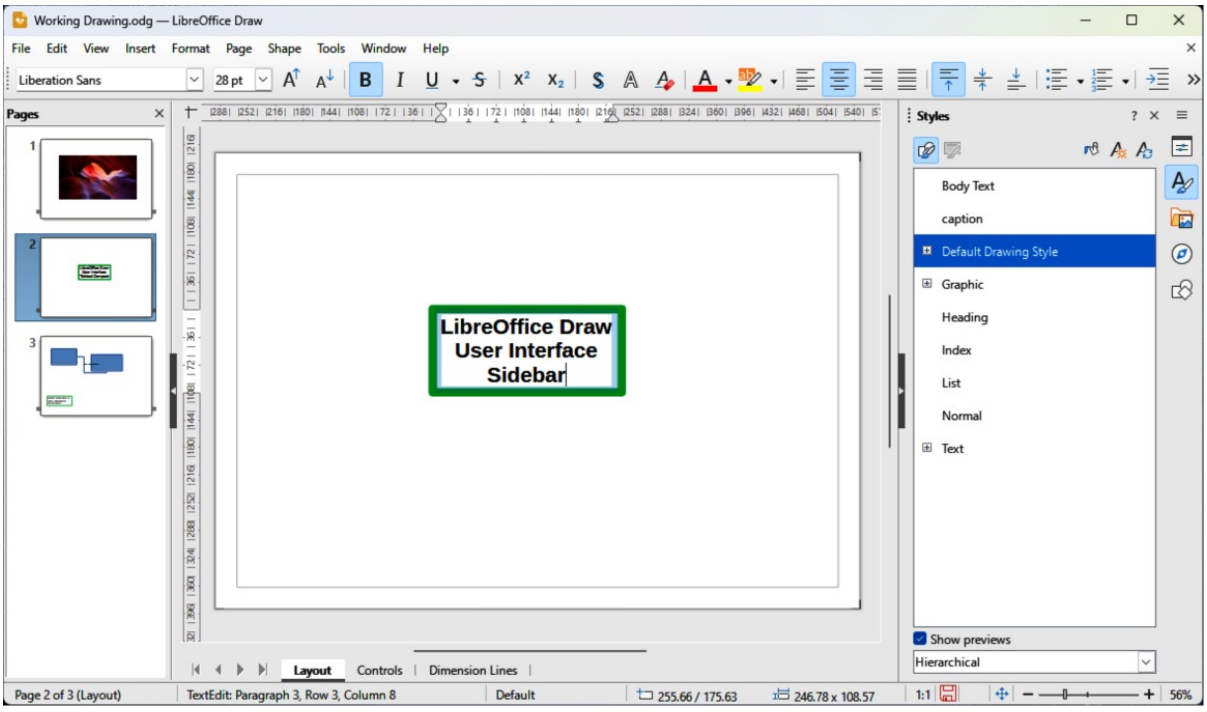

Figure 324: Sidebar user interface

Tabbed Compact

The **Tabbed Compact** user interface uses the same tabs as the **Tabbed** user interface, but the tools on each tab are arranged as a single row of tools. Some of these tools have drop-down menus with extra options. Figure 325 shows an example of the **File** tab in the **Tabbed Compact** user interface. When displayed, clicking on the double chevron **>>** on the right of the tab bar displays more tools and commands for editing an object.

The tab menu on the right of the **Tabbed Compact** user interface provides the same options as the tab menus in the **Tabbed** user interface, see “Tabbed” on page 327 for more information.

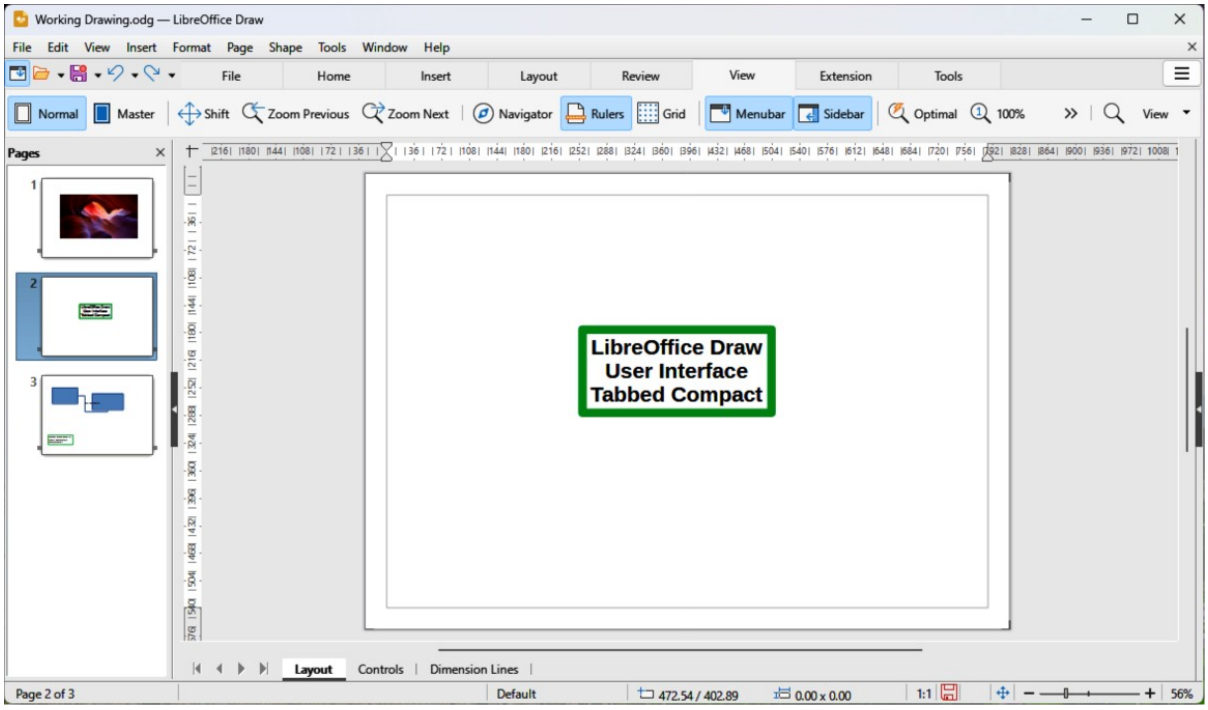

Figure 325: Tabbed Compact user interface

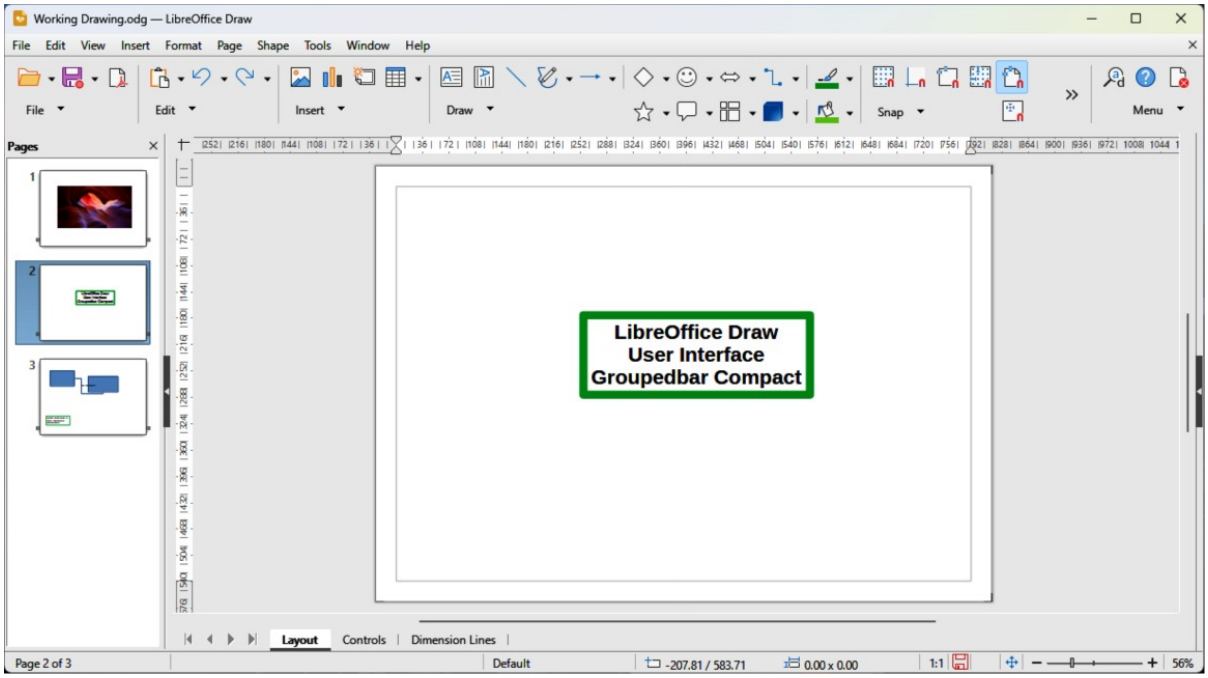

Figure 326: Groupedbar Compact user interface

Groupedbar Compact

The **Groupedbar Compact** user interface provides access to tools and commands in groups using icons for frequently used tools and drop-down menus for other tools and commands. Figure 326 shows an example of a **Compact Groupedbar** user interface with a text object selected in a LibreOffice Draw document and is organized as sets of tools and menus. The tools and menus that are available change to suit the type of object selected. Clicking on the double chevron **>>** displays more tools for editing an object.

Contextual Single

The **Contextual Single** user interface displays a single toolbar for the type of selected object. Figure 327 shows an example of **Contextual Single** user interface when a drawing object is selected. Clicking on the double chevron **>>** displays more options for editing an object.

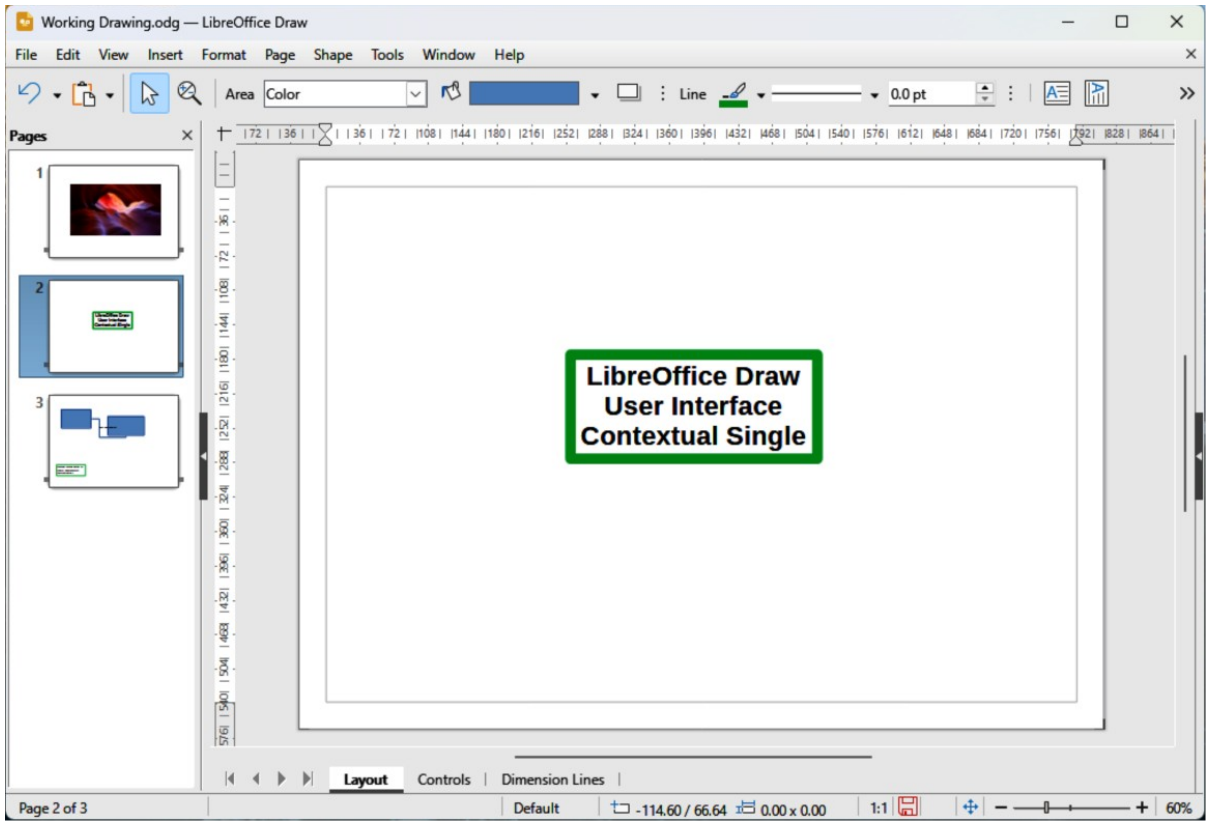

Figure 327: Contextual Single user interface

Draw Guide 24.8

Appendix A, Keyboard Shortcuts

Introduction

LibreOffice can be used without requiring a pointing device, for example mouse, trackpad, or trackball, or keyboard shortcuts. For example, tasks as varied and complex as docking and undocking toolbars and windows, or changing the size or position of objects can be carried out with keyboard shortcuts. Although LibreOffice has an extensive set of keyboard shortcuts, each LibreOffice module has keyboard shortcuts that are specific to that module.

For help with LibreOffice keyboard shortcuts, or using LibreOffice with a keyboard only, search the LibreOffice Help using the “shortcut” or “accessibility” as keywords.

Keyboard shortcuts can also be defined in LibreOffice. For example, assign keyboard shortcuts to standard Draw functions or macros and save them for use with Draw, or with other modules in LibreOffice. To customize keyboard shortcuts, see the *Getting Started Guide* for more information.

macOS keyboard shortcuts

Some keystrokes and menu items are different in macOS from those used in Windows or Linux operating systems. This due to the way the different operating systems work and the different types of keyboards used. Also, labelling on the keyboards may vary depending on the age of a computer and style of keyboard being used. The following information shows the most common variations in macOS for keyboard shortcuts and labelling.

Shift, Control and Alt keys

Windows or Linux	***macOS***
Control or *Ctrl*	⌘ or *Cmd* or *Command*
Alt	⌥ or *Option* or *Alt*
Shift or ⇧	*Shift* or ⇧
Caps Lock	⇪ or *Caps Lock*
Control or *Ctrl*	^ or *Control* or *Ctrl*

Home and End keys

Windows or Linux	***macOS***
Home	*Fn+Left Arrow*
End	*Fn+Right Arrow*

Page Up and Page Down

Windows or Linux	***macOS***
Screen Up	*Fn+Up Arrow*
Page Up	⌥ or *Option* or *Alt+Fn+Up Arrow*
Screen Down	*Fn+Down Arrow*
Page Down	⌥ or *Option* or *Alt+Fn+Down Arrow*

Note

Some keyboard shortcuts are not available for macOS computers and are indicated in the following tables by a blank cell.

Draw function key and keyboard shortcuts

Draw function keys

Windows Linux	***macOS***	***Effect***
F1	*F1*	Opens LibreOffice Draw help.
F2	*F2*	Switches to text edit mode and opens the Text Formatting toolbar.
F3	*F3*	Enters a group of objects for editing.
Shift+F3	*Shift+F3*	Opens the Duplicate dialog of a selected object.
Ctrl+F3	*⌘+F3*	Exits a group of objects.
F4	*F4*	Opens the Position and Size dialog of a selected object.
F5	*F5*	Opens the Navigator.
F6	*F6*	Forward navigation of the emphasis within the on screen elements.
Shift+F6	*Shift+F6*	Backward navigation of the emphasis within the on screen elements.
F7	*F7*	Starts the spelling checker. Only available in text editing mode.
Shift+F7	*Shift+F7*	Switches on or off the automatic spell checking. Only available in text editing mode.
Ctrl+F7	*⌘+F7*	Opens the Thesaurus dialog for the language being used. Only available in text editing mode.
F8	*F8*	Opens the Edit Points toolbar.
Ctrl+Shift+F8	*⌘+Shift+F8*	Fits text to frame of a selected object.
Shift+F10	*Shift+F10*	Opens the context menu of a selected object.
F11	*⌘+T*	Opens the Styles deck on the Sidebar.

Draw keyboard shortcuts

Windows Linux	***macOS***	***Effect***
Plus (+)	*Fn+Shift++*	Zooms in.
Minus (-)	*Fn+−−*	Zooms out.
Times (×) on number pad	*Times (*)* on numeric keyboard	Fits the drawing to fill the Workspace view.

Windows Linux	***macOS***	***Effect***
Divide (÷) on number pad	*Divide (/)* on numeric keyboard	Zooms in on the selected object.
Ctrl+Shift+G	⌘*+Shift+G*	Groups selected objects.
Shift+Ctrl+Alt+G	⌘*+Shift+*⌥*+G*	Ungroups selected group.
Ctrl+click	⌘*+click*	Enters a group to edit individual objects in the group. Click outside the group to return to normal view.
Ctrl+Shift+K	⌘*+Shift+K*	Combines selected objects.
Ctrl+Shift+Alt+K	⌘*+Shift+*⌥*+K*	Splits a selected object that has been combined from a group of two or more objects.
Ctrl++	⌘*++*	Brings current selection forward.
Ctrl+Shift++	⌘*+Shift++*	Brings current selection to the front.
Ctrl+-	⌘*+-*	Sends current selection backward.
Ctrl+Shift+-	⌘*+Shift+-*	Sends current selection to the back.
Page Up	⌥*+Fn+Up Arrow*	Switches to previous page. No function on the first page.
Page Down	⌥*+Fn+Down Arrow*	Switches to next page. No function on the last page.
Ctrl+Page Up	⌘*+Fn+Up Arrow*	Switches to previous layer.
Ctrl+Page Down	⌘*+Fn+Down Arrow*	Switches to next layer.
Arrow	*Arrow*	Moves a selected object in the direction of the arrow.
Ctrl+Arrow	*Ctrl+Arrow*	Moves the page view in the direction of the arrow.
Left Arrow	*Left Arrow*	With Pages pane selected, switches to the previous page in a drawing. No function on the first page.
Right Arrow	*Right Arrow*	With Pages pane selected, switches to the next page in a drawing. No function on the last page.
Shift	*Shift*	When selecting objects, adds or removes object to or from a selection of objects.
Shift	*Shift*	Hold down *Shift* then click and drag a selection handle when resizing an object to maintain the proportions of the object.
Shift	*Shift*	Hold down the *Shift* key while moving a selected object to constrain the movement in multiples of 45 degrees.

Windows Linux	macOS	Effect
Shift	*Shift*	Hold down the *Shift* key before selecting several adjacent objects or characters. Click at the start of a selection, move to the end of the selection.
Ctrl	⌘	Hold down the *Ctrl* (⌘) key, then click and drag a selected object to create a copy of the object.
Alt	⌥	Hold down the *Alt (⌥)* key and draw or resize an object from the centre of the object.
Alt	⌥	Hold down the *Alt (⌥)* key when selecting an object that is behind the currently selected object.
Alt+ Shift	⌥+*Shift*	Hold down the *Alt (⌥)+Shift* keys when selecting an object that is in front of the currently selected object.
Tab	*Tab*	Selects objects in the order in which they were created.
Shift+Tab	*Shift+Tab*	Selects objects in the reverse order in which they were created.
Esc	*Esc*	Exits current mode.
Enter	*Enter*	Enters text mode if a text object in the drawing is selected.
Ctrl+Enter	⌘+*Enter*	Inserts a new page after the selected page in a drawing.
Home	*Fn+Left Arrow*	Selects the first page in a drawing.
End	*Fn+Right Arrow*	Selects the last page in a drawing.

Editing text keyboard shortcuts

Windows Linux	macOS	Effect
Ctrl+-	⌘+-	Inserts a custom hyphen (soft hyphen) in text at the cursor position.
Ctrl+Shift +-	⌘+*Shift+-*	Inserts a non-breaking hyphen (hard hyphen) in text at the cursor position.
Ctrl+Shift+ Space	⌘+*Shift+ Space*	Inserts a non-breaking space, which is not used for hyphenation and is not expanded if the text is justified.
Shift+Enter	*Shift+Enter*	Inserts a line break without paragraph change.
Left arrow	*Left arrow*	Moves the cursor one character to the left.
Shift+Left arrow	*Shift+Left arrow*	Moves the cursor one character to the left and selects the character.
Ctrl+Left arrow	⌥+*Left arrow*	Moves the cursor to the beginning of the previous word.
Ctrl+Shift+ Left arrow	⌥+*Shift+ Left arrow*	Moves the cursor to the left and selects the word on the left.

Windows Linux	macOS	Effect
Right arrow	Right arrow	Moves the cursor one character to the right.
Shift+Right arrow	Shift+Right arrow	Moves the cursor one character to the right and selects the character.
Ctrl+Right arrow	⌥+Right arrow	Moves the cursor to the beginning of the next word.
Ctrl+Shift+ Right arrow	⌥+Shift+ Right arrow	Moves the cursor to the right and selects the word on the right.
Up arrow	Up arrow	Moves the cursor up one line.
Shift+Up arrow	Shift+Up arrow	Moves the cursor up one line in the text and selects the lines of text.
Ctrl+Up arrow	⌥+Up arrow	Moves the cursor to the beginning of the paragraph.
Ctrl+Shift+Up arrow	⌥+Shift+Up arrow	Moves the cursor to the beginning of the paragraph. Selects the text in the paragraph from the cursor position to the beginning of the paragraph.
Down arrow	Down arrow	Moves the cursor down one line.
Shift+Down arrow	⌥+Down arrow	Moves the cursor down one line in the text and selects the lines of text.
Ctrl+Down arrow	⌘+Down arrow	Moves the cursor to the end of the paragraph.
Ctrl+Shift+ Down arrow	⌥+Shift+ Down arrow	Moves the cursor to the end of the paragraph. Selects the text in the paragraph from the cursor position to the end of the paragraph.
Ctrl+ Backspace	⌘+Backspace	Deletes the text from the cursor position to the beginning of the word.
Ctrl+Shift+ Backspace	⌘+Shift+ Backspace	Deletes the text from the cursor position to the beginning of the sentence.

Menu function key and keyboard shortcuts

Function key and keyboard shortcuts listed in the following tables are available for each menu item on the Menu bar. The tables give menu item or sub-item, operating system validity, and effect or purpose of the shortcut.

Note

The menus listed below are in the same order as displayed on the Menu bar from left to right.

LibreOffice

The LibreOffice menu is only available for computers using macOS.

Menu item or sub-item	macOS	Effect
Preferences	⌘+,	Opens the Options dialog.
Hide LibreOffice	⌘+H	Temporarily hides LibreOffice, but does not close LibreOffice.

Menu item or sub-item	macOS	Effect
Exit LibreOffice	⌘+Q	Closes LibreOffice. Make sure all LibreOffice files are saved before using.

File menu

Menu item or sub-item	Windows Linux	macOS	Effect
New	Ctrl+N	⌘+N	Opens a new drawing.
Templates	Shift+ Ctrl+N	⌘+Shift+N	Opens the Drawings category in the Templates dialog.
Open	Ctrl+O	⌘+O	Opens a file browser allowing navigation to a folder and file selection.
Manage Templates	Shift+ Ctrl+N	⌘+Shift+N	Opens the Drawings category in the Templates dialog.
Save	Ctrl+S	⌘+S	Saves the open drawing.
Save As	Ctrl+ Shift+S	⌘+Shift+S	Opens a file browser allowing navigation to a folder and save the open drawing as a new file.
Print	Ctrl+P	⌘+P	Opens the Print dialog allowing selection of how the drawing is printed.
Exit LibreOffice	Ctrl+Q	⌘+Q	Closes LibreOffice. Make sure all files are saved before using.

Edit Menu

Menu item or sub-item	Windows Linux	macOS	Effect
Undo	Ctrl+Z	⌘+Z	Undoes the previous editing action.
Redo	Ctrl+Y	⌘+Y	Reverses the action of the last **Undo** command.
Cut	Ctrl+X	⌘+X	Deletes the selected object and places it on the clipboard.
Copy	Ctrl+C	⌘+C	Copies the selected object to the clipboard.
Paste	Ctrl+V	⌘+V	Inserts the contents of the clipboard at the location of the cursor replacing any selected text or objects.
Paste Special > Paste Special	Ctrl+ Shift+V	⌘+Shift+V	Pastes the contents of the clipboard at the cursor position in a format that is specified using the Paste Special dialog.
Duplicate	Shift+F3	Shift+F3	When an object is selected, opens the Duplicate dialog providing options for duplicating a selected object.
Select All	Ctrl+A	⌘+A	Selects all the pages and objects in a drawing.

Menu item or sub-item	Windows Linux	macOS	Effect
Find	Ctrl+F	⌘+F	Opens the Find toolbar.
Replace	Ctrl+H	⌘+⌥+F	Opens the Find and Replace dialog.
Points	F8	F8	Opens the Edit Points toolbar if there is an object on the drawing that uses editable points, for example a freeform line.
Edit Mode	Ctrl+ Shift+M	⌘+Shift+M	Allows a read only drawing to be edited if the user has writer permission.

View menu

Menu item or sub-item	Windows Linux	macOS	Effect
Rulers	Ctrl+ Shift+R	⌘+Shift+R	Switches the rulers off and on in the Workspace.
Sidebar	Ctrl+F5	⌘+F5	Opens or closes the Sidebar.
Styles	F11	⌘+T	Opens or closes the Styles deck on the Sidebar.
Navigator	F5	F5	Opens the Navigator dialog.

Insert menu

Menu item or sub-item	Windows Linux	macOS	Effect
Text Box	F2	F2	Switches to text edit mode and opens the Text Formatting toolbar.
Comment	Ctrl+Alt+C	⌘+⌥+C	Inserts a new comment box onto the selected page.
Hyperlink	Ctrl+K	⌘+K	Opens the Hyperlink dialog.
Insert non-breaking space	Ctrl+Shift+S pace	⌘+Shift+ Space	Inserts a non-breaking space at the cursor position.
Insert Narrow No-break Space	Alt+Shift+ Space	⌥+Shift+ Space	Inserts a narrow non-breaking space at the cursor position.
No-width Optional Break	Ctrl+/	⌘+/	Inserts a narrow no-width optional break at the cursor position.

Format menu

Menu item or sub-item	Windows Linux	macOS	Effect
Bold	Ctrl+B	⌘+B	Applies **Bold** format to selected text.
Italic	Ctrl+I	⌘+I	Applies *Italic* format to selected text.

Menu item or sub-item	Windows Linux	macOS	Effect
Superscript	Ctrl+Shift+P	⌘+Shift+P	Reduces the font size of the selected text and raises the text above the baseline.
Subscript	Ctrl+ Shift+B	⌘+Shift+B	Reduces the font size of the selected text and lowers the text below the baseline.
Increase Size	Ctrl+]	⌘+]	Increases the point size of selected text.
Decrease Size	Ctrl+[	⌘+[	Decreases the point size of selected text.
Line Spacing 1	Ctrl+1	⌘+1	Sets the line spacing in a paragraph to a single line.
Line Spacing 5	Ctrl+5	⌘+5	Sets the line spacing in a paragraph to one and half lines.
Line Spacing 2	Ctrl+2	⌘+2	Sets the line spacing in a paragraph to two lines.
Left	Ctrl+L	⌘+L	Sets the paragraph alignment to left aligned.
Center	Ctrl+E	⌘+E	Sets the paragraph alignment to center aligned.
Right	Ctrl+R	⌘+R	Sets the paragraph alignment to right aligned.
Justified	Ctrl+J	⌘+J	Sets the paragraph alignment to justified.
Clear Direct Formatting	Ctrl+M	⌘+M	Removes direct formatting that has been applied without using styles.
Edit Style	Alt+P	⌥+P	Opens the Graphic Styles dialog to edit a selected style.
Manage Styles	F11	⌘+T	Opens or closes the Styles deck on the Sidebar.
Position and Size	F4	F4	Opens the Position and Size dialog of a selected object.

Shape menu

Menu item or sub-item	Windows Linux	macOS	Effect
Bring to Front	Ctrl+ Shift++	⌘+Shift++	Moves a selected object to the front of other objects.
Bring Forward	Ctrl++	⌘++	Moves a selected object in front of the forward object.
Send Backward	Ctrl+-	⌘+-	Moves a selected object behind the backward object.
Send to Back	Ctrl+ Shift+-	⌘+Shift+-	Moves a selected object to the back of other objects.

Menu item or sub-item	Windows Linux	macOS	Effect
Group	Ctrl+Shift+G	⌘+Shift+G	Groups selected objects.
Ungroup	Ctrl+Alt+Shift+G	⌘+⌥+Shift+G	Ungroups selected group.
Enter Group	F3	F3	Enters a group of objects for editing.
Exit Group	Ctrl+F3	⌘+F3	Exits a group of objects.
Combine	Ctrl+Shift+K	⌘+Shift+K	Combines two or more selected objects into a single shape.
Split	Ctrl+Shift+Alt+K	⌘+⌥+Shift+K	Splits a combined object into individual objects.
Duplicate	Shift+F3	Shift+F3	When an object is selected, opens the Duplicate dialog providing options for duplicating a selected object.

Tools menu

Menu item or sub-item	Windows Linux	macOS	Effect
Spelling	F7		Starts spelling checker. Only available in text editing mode.
Automatic Spell Checking	Shift+F7	Shift+F7	Switches on or off the automatic spell checking. Only available in text editing mode.
Thesaurus	Ctrl+F7	⌘+F7	Opens the thesaurus dialog for the language being used. Only available in text editing mode.
Extension Manager	Ctrl+Alt+E	⌘+⌥+E	Opens the Extension Manager dialog.
Options	Alt+F12		Opens the Options LibreOffice dialog.

Windows menu

Menu item or sub-item	Windows Linux	macOS	Effect
Closes Window	Ctrl+W	⌘+W	Closes the active window. If there is only one window, closes LibreOffice.

Help menu

Menu item or sub-item	Windows Linux	macOS	Effect
LibreOffice Help	F1	F1	Opens a browser application at the LibreOffice Help pages.
Search Commands	Shift+Esc		Opens a dialog to search for a command.

General function key and keyboard shortcuts

Opening menus and menu items

Windows Linux	***macOS***	***Effect***
Esc	*Esc*	Closes an open menu.
F6	*F6*	Repeatedly pressing *F6* cycles the focus through the following objects: Menu bar (Windows and Linux operating systems only). Each toolbar from top to bottom and from left to right. Each free window from left to right.
Shift+F6	*Shift+F6*	Repeatedly pressing *Shift+F6* cycles the focus in the opposite direction.
Ctrl+F6	*⌘+F6*	Cycles the focus back to the drawing.
F10		Switches the access on or off for the Menu bar.

Accessing Menu bar commands

- Press *F6* selects the first item (File) on the Menu bar.
- Press the right arrow selects the next menu to the right.
- Press the left arrow selects the previous menu to the left.
- Press the *Home* and *End* keys selects the first or last item on the Menu bar.
- Press the down arrow to open a selected menu. An additional press on the down arrow or up arrow moves the selection through the menu commands.
- Press the right arrow to open any submenus on the selected menu. Submenus are indicated by a triangle ► or chevron **>** next to the menu item.
- Press *Enter* to execute the selected menu command.

Accessing toolbar commands

- Press F6 repeatedly until the first tool on a toolbar is selected.
- Using the right and left arrows selects a tool on a horizontal toolbar, or the up and down arrows selects a tool on a vertical toolbar.
- Pressing the *Home* key selects the first tool on a toolbar, or the *End* key selects the last tool on a toolbar.
- Pressing *Enter* activates the selected tool.
- Pressing the right arrow opens any sub-toolbar on a selected toolbar. Sub-toolbars are indicated by a triangle ▼ next to the tool.
- Pressing *Ctrl+Enter* inserts a selected draw object. The draw object is placed in the center of the drawing, with a predefined size.

Controlling dialogs

When any dialog is open, one element (for example a button or option field) indicates focus by highlighting, a check mark, or a dotted box around the field or button name.

Windows ***Linux***	***Effect***
Enter	Activates the selected option. Where no option is selected, *Enter* is the equivalent to clicking on **OK**.
Esc	Closes a dialog without saving any changes made while it was open, the equivalent to selecting **Cancel**.
Up/Down arrow keys	Moves focus up and down a list. Increases or decreases the value of a variable. Moves focus vertically within a section of dialog.
Left/Right arrow keys	Moves focus horizontally within a section of a dialog.
Tab	Advances focus to the next section or element of a dialog.
Shift+Tab	Moves the focus to the previous section or element in a dialog.
Alt+Down Arrow	Shows the options available in a drop-down list.
Spacebar	Checks or selects an empty checkbox. Clears or deselects a checked checkbox.

Toolbar function key and keyboard shortcuts

The Draw toolbars are listed in the same order displayed in the context menu that opens when **View > Toolbars** is selected on the Menu bar.

Draw provides several toolbars for the creation and editing of drawings. Some tools on the Draw toolbars can be activated using a function key, or keyboard shortcut.

Drawing

Tool name	***Windows*** ***Linux***	***macOS***	***Effect***
Insert Text Box	*F2*	*F2*	Switches to text edit mode and opens the Text Formatting toolbar.
Edit Points	*F8*	*F8*	Opens the Edit Points toolbar if there is an object on the drawing that uses editable points, for example a freeform line.

Find

Tool name	***Windows*** ***Linux***	***macOS***	***Effect***
Find and Replace	*Ctrl+H*	*⌘+⌥+H*	Finds and replaces all instances of text in a drawing.

Form Design

Tool name	Windows Linux	macOS	Effect
Bring to Front	Ctrl+Shift++	⌘+Shift++	Moves a selected object to the front of other objects.
Send to Back	Ctrl+Shift+-	⌘+Shift+-	Moves a selected object to the back of other objects.
Group	Ctrl+Shift+G	⌘+Shift+G	Groups selected objects.
Ungroup	Ctrl+Alt+Shift+G	⌘+⌥+Shift+G	Ungroups selected group.
Enter Group	F3	F3	Enters a group of objects for editing.
Exit Group	Ctrl+F3	⌘+F3	Exits a group of objects.

Image

Tool name	Windows Linux	macOS	Effect
Position and Size	F4	F4	Opens the Position and Size dialog of a selected object.
Bring to Front	Ctrl+Shift++	⌘+Shift++	Moves a selected object to the front of other objects.
Bring Forward	Ctrl++	⌘++	Moves a selected object in front of the forward object.
Send Backward	Ctrl+-	⌘+-	Moves a selected object behind the backward object.
Send to Back	Ctrl+Shift+-	⌘+Shift+-	Moves a selected object to the back of other objects.

Line and Filling

Tool name	Windows Linux	macOS	Effect
Position and Size	F4	F4	Opens the Position and Size dialog of a selected object.
Bring to Front	Ctrl+Shift++	⌘+Shift++	Moves a selected object to the front of other objects.
Bring Forward	Ctrl++	⌘++	Moves a selected object in front of the forward object.
Send Backward	Ctrl+-	⌘+-	Moves a selected object behind the backward object.
Send to Back	Ctrl+Shift+-	⌘+Shift+-	Moves a selected object to the back of other objects.
Styles	F11	⌘+T	Opens the Styles deck on the Sidebar.

Standard

Tool name	*Windows Linux*	*macOS*	*Effect*
New	*Ctrl+N*	*⌘+N*	Opens a new drawing.
Templates	*Ctrl+ Shift+N*	*⌘+Shift+N*	Opens the Templates dialog to create a new drawing using a template.
Open	*Ctrl+O*	*⌘+O*	Opens the Open file browser to allow navigation to a folder and selection of a drawing.
Save	*Ctrl+S*	*⌘+S*	Saves the open document.
Save As	*Ctrl+ Shift+S*	*⌘+Shift+S*	Opens the Save as file browser to save the open drawing as a new drawing.
Edit Mode	*Ctrl+ Shift+M*	*⌘+Shift+M*	Switches on edit mode when a drawing is in read only mode.
Print	*Ctrl+P*	*⌘+P*	Opens the Print dialog to select how to print the drawing.
Cut	*Ctrl+X*	*⌘+X*	Deletes the selected object and places it on the clipboard.
Copy	*Ctrl+C*	*⌘+C*	Copies the selected object to the clipboard.
Paste	*Ctrl+V*	*⌘+V*	Places the object on the clipboard into the document.
Clear	*Ctrl+M*	*^+M*	Removes direct formatting that has been applied without using styles.
Undo	*Ctrl+Z*	*⌘+Z*	Undoes the previous editing action.
Redo	*Ctrl+Y*	*⌘+Y*	Reverses the action of the last **Undo** command.
Spelling	*F7*	*F7*	Starts the spelling checker. Only available in text editing mode.
Auto Spellcheck	*Shift+F7*	*Shift+F7*	Switches on or off the automatic spell checking. Only available in text editing mode.
Text Box	*F2*		Switches to text edit mode and opens the Text Formatting toolbar.
Insert Hyperlink	*Ctrl+K*		Opens the Hyperlink dialog.
Position and Size	*F4*		Opens the Position and Size dialog of a selected object.
Edit Points	*F8*		Opens the Edit Points toolbar if there is an object on the drawing that uses editable points, for example a freeform line.

Standard (Viewing Mode)

Tool name	*Windows Linux*	*macOS*	*Effect*
Save As	*Ctrl+Shift+S*	*⌘+Shift+S*	Opens the Save as file browser so you can save the open document as a new document.
Edit Mode	*Ctrl+Shift+M*	*⌘+Shift+M*	Switches on edit mode when a document is in read only mode.
Print	*Ctrl+P*	*⌘+P*	Opens the Print dialog so that you can select how you want to print the document.
Copy	*Ctrl+C*	*⌘+C*	Copies the selected object to the clipboard.
Find and Replace	*Ctrl+H*	*⌘+⌥+F*	Opens the Find and Replace dialog.

Text Formatting

Tool name	*Windows Linux*	*macOS*	*Effect*
Increase	*Ctrl+]*	*⌘+]*	Increases the point size of selected text.
Decrease	*Ctrl+[*	*⌘+[*	Decreases the point size of selected text.
Bold	*Ctrl+B*	*⌘+B*	Applies **Bold** format to selected text.
Italic	*Ctrl+I*	*⌘+I*	Applies *Italic* format to selected text.
Superscript	*Ctrl+Shift+P*	*⌘+Shift+P*	Reduces the font size of the selected text and raises the text above the baseline.
Subscript	*Ctrl+Shift+B*	*⌘+Shift+B*	Reduces the font size of the selected text and lowers the text below the baseline.
Clear	*Ctrl+M*	*^+M*	Removes direct formatting that has been applied without using styles.
Left	*Ctrl+L*	*⌘+L*	Sets the paragraph alignment to left aligned.
Center	*Ctrl+E*	*⌘+E*	Sets the paragraph alignment to center aligned.
Right	*Ctrl+R*	*⌘+R*	Sets the paragraph alignment to right aligned.
Justified	*Ctrl+J*	*⌘+J*	Sets the paragraph alignment to justified.
Select All	*Ctrl+A*	*⌘+A*	Selects all the text in a text box.

Draw Guide 24.8

Appendix B, Toolbars

Introduction

Draw provides several toolbars for creating drawings. Each toolbar has a default set of tools when LibreOffice is installed on a computer. To improve the usability of a toolbar, additional tools can be added, see “Editing toolbars” on page 359 for more information.

Notes

The icons displayed on the Draw toolbars illustrated in this appendix may differ from what is displayed on a computer screen. Toolbar icons depend on the computer operating system being used and how LibreOffice has been set up. For more information on customizing LibreOffice and toolbars, see the *Getting Started Guide*.

Some toolbars when selected do not display until an object of the correct type is selected in a presentation. For example, the Image toolbar only displays when an image, or graphic, using an image file format is selected.

When selecting some tools on a toolbar, a subtoolbar may be available providing more tools for editing an object. For example, clicking on **Color** in the Image toolbar opens the Color subtoolbar to adjust the color settings of an image.

Using toolbars

Displaying toolbars

Two methods of opening toolbars in Draw are used, as follows:

1) Go to **View > Toolbars** on the Menu bar. A sub-menu opens with an alphabetical list of toolbars available for creating drawings in Draw.
2) Click on a toolbar name to display it and make it active. Active toolbars are indicated by highlighting or a check mark next to the toolbar name, depending on computer setup.

Closing toolbars

To close a toolbar, use one of the following methods:

- Go to **View > Toolbars** on the Menu bar and deselect the toolbar.
- Right-click in a blank area on a toolbar and select **Close Toolbar** from the context menu.
- Click on the **X** in the right corner of the title bar of a floating toolbar.

Moving toolbars

Docked toolbars

By default, some toolbars are docked into position in the Draw main window. By default in the main window, the Standard toolbar is docked horizontally at the top and the Drawing toolbar is docked vertically at the left side. Docked toolbars can be undocked and moved into a new docked position on the main window, or left as a floating toolbar.

1) Move the cursor over the small vertical handle at the left end of the toolbar, or horizontal handle at the top of a toolbar (highlighted in Figure 328). The cursor changes shape to the moving cursor used for the computer system and setup.
2) Alternatively, right click on a docked toolbar and select **Undock Toolbar** from the context menu.

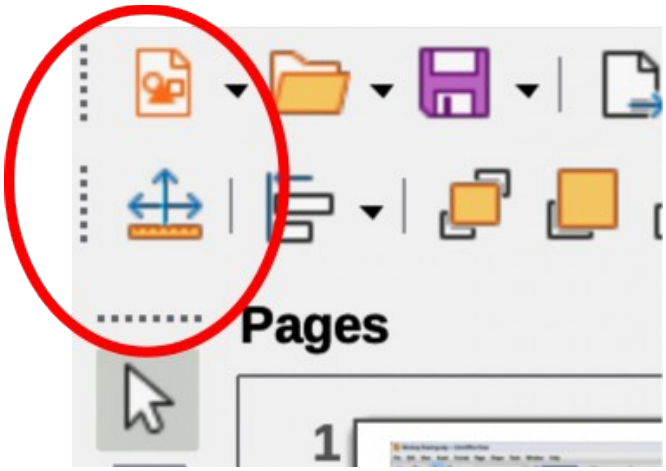

Figure 328: Example of toolbar moving handles

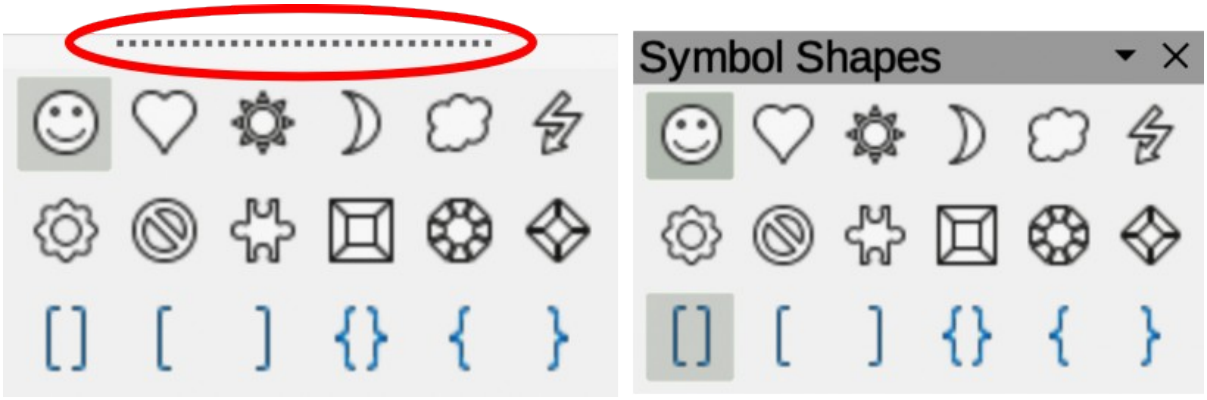

Figure 329: Example of creating floating subtoolbars

3) Click and drag the toolbar to a new docked position, or leave as a floating toolbar. A hashed border appears around the toolbar indicating toolbar position as it is dragged.

4) Release the toolbar when it is in the required position.

Note

If these toolbar moving handles are not not visible at the left end or top of a docked toolbar, then the toolbar is locked into position. A docked toolbar must be unlocked before it can be moved to a new position in the main window. See “Locking toolbars” on page 358 for more information.

Floating toolbars

To move a floating toolbar, click on the title bar and drag it to a new floating location. Release the toolbar when it is in the required position. A floating toolbar does not have to be positioned on the Draw main window for it to function.

Floating subtoolbars

Some tools on a toolbar have a triangle ▼ to the right of the tool indicating that more tools are available on a subtoolbar, for example **Symbol Shapes** on the Drawing toolbar. Subtoolbars can be turned into floating toolbars and moved into a new position as follows:

1) Move the cursor over the horizontal handle at the top of the subtoolbar (highlighted in Figure 329). The cursor changes to the moving cursor used for the computer system and setup.

2) Click and drag the subtoolbar to a new location creating a floating subtoolbar.

3) Release the subtoolbar when the required position is reached.

4) To close the floating subtoolbar, right-click on the triangle ▼ in the subtoolbar title bar and select **Close Toolbar** from the context menu.

5) Alternatively, click on the **X** in the right corner of the title bar of a floating subtoolbar

Docking floating toolbars

To dock a floating toolbar, use one of the following methods:

- Click on the title bar and drag it to a docking position at the top, bottom, left side, or right side of the main window. When the toolbar reaches its docking position, a hashed border appears at the docking position. Release the toolbar to dock it in the required position.
- Right-click on the toolbar and select **Dock Toolbar** from the context menu. The toolbar moves into a docked position. If the position is not suitable, move the toolbar to a new docked position.
- To dock all floating toolbars that are active, right-click on a toolbar and select **Dock All Toolbars** from the context menu.

Locking toolbars

Docked toolbars

When a toolbar has been docked into position, the toolbar can also be locked into position preventing the toolbar from becoming a floating toolbar.

- To lock a toolbar into a docked position, right-click in a blank area on the toolbar and select **Lock Toolbar Position** in the context menu. The small vertical or horizontal bar at the left end or top of the toolbar disappears indicating that the toolbar is locked.
- To unlock a toolbar, right-click in a blank area on the toolbar and click on **Lock Toolbar Position** in the context menu. A small vertical or horizontal bar appears at the left end or top of the toolbar indicating that the toolbar is unlocked. This bar is also is used to move the toolbar.

Notes

The **Lock Toolbar Position** is used for locking and unlocking toolbars is an on/off switch.

Some toolbars cannot be docked or locked into position. This is indicated by the options **Dock Toolbar** and/or **Lock Toolbar Position** being grayed out making both options unavailable.

Using the **Lock Toolbars** option affects all toolbars and subtoolbars available in all LibreOffice modules.

Locking toolbars and subtoolbars

To prevent all toolbars and subtoolbars from becoming floating toolbars or subtoolbars, they can be locked. Locked toolbars and subtoolbars can be unlocked using the same method below. The **Lock Toolbars** option is used as a lock/unlock switch.

1) Save the drawing that is open in Draw.

2) Go to **View > Toolbars** on the Menu bar and select **Lock Toolbars** from the context menu.

3) Select **Restart Now** in the Restart LibreOffice dialog that opens to activate the **Lock Toolbars** option.

4) To unlock all toolbars and subtoolbars so they can be repositioned, repeat Steps 1 thru 3. The **Lock Toolbars** option is an on/off switch.

Editing toolbars

When LibreOffice is installed on a computer, it includes a set of toolbars suitable for each LibreOffice module. Each toolbar has a default set of visible tools. Tools can be added or deleted, and toolbars can be customized.

Adding tools

1) Right-click in a blank area on a toolbar, or click on the triangle ▼ on the right of the toolbar title bar.

2) Select **Visible Buttons** from the context menu to display a list of available tools.

3) Click on the tool required and the tool appears in the toolbar. The list of available tools closes automatically. A check mark next to the tool, or highlighting around the tool, indicates that the tool listed in **Visible Buttons** is already installed on the toolbar.

Note

When adding tools using **Visible Buttons**, the tool is added to the toolbar at the same position as the tool appears in the **Visible Buttons** list. That is, the first tool in the list appears at the left end of the toolbar and the last tool in the list appears at the right end of the toolbar.

Removing tools

1) Right-click in a blank area on a toolbar, or click on the triangle ▼ on the right of the toolbar title bar.

2) Select **Visible Buttons** from the context menu to display a list of available tools.

3) Click on a tool no longer required to deselect and it is removed from the toolbar. The highlighting or check mark is also removed. The list of available tools closes automatically.

Customizing toolbars

Extra tools and commands that are not available in **Visible Buttons** can be added to a toolbar using customization (**View > Toolbars > Customize** on the Menu bar). Customization also allows the creation of new toolbars if a specific set of tools are required for a specific task. For information on customizing toolbars, see the *Getting Started Guide*.

Toolbars

- To open the default list of toolbars already installed in Draw, go to **View > Toolbars** on the Menu bar. An example of the default list of toolbars in Draw is shown in Figure 330.
- The number of tools visible on a toolbar depends on the computer setup and operating system being used to create a drawing.
- The tools displayed on toolbars displayed in this appendix are examples only. Actual tools displayed in a toolbar depend on computer setup, operating system and user preferences.

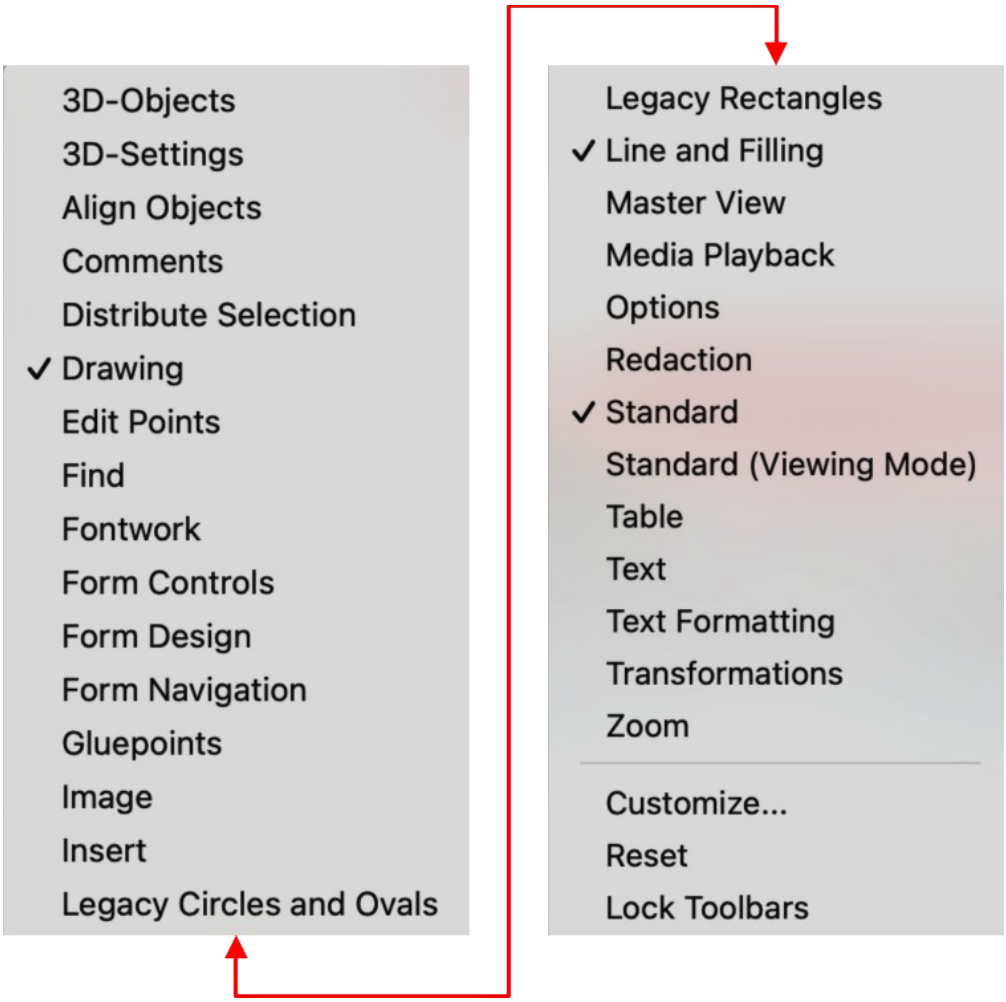

Figure 330: Example of default list of toolbars in Draw

- The tools already installed on a toolbar are indicated in **Visible Buttons** either by the tool icon being highlighted or by a check mark. This indication depends on computer setup and computer operating system being used.
- On some toolbars, tool icons may have a triangle ▼ to the right of the icon. Click on this triangle ▼ to open a list of options, another toolbar, or a subtoolbar.
- Some tools also have a keyboard shortcut to make the tool available for ues. For a full list of keyboard shortcuts available in Draw, see Appendix A, Keyboard Shortcuts.
- Each toolbar and subtoolbar displayed in this appendix shows the full list of available tools for that toolbar or subtoolbar.

3D-Objects

The 3D-Objects toolbar (Figure 331) provides the tools for creating 3D objects in a drawing. Go to **View > Toolbars > 3D-Objects** on the Menu bar. Alternatively, clicking on the triangle ▼ next to **3D-Objects** on the Drawing toolbar opens a subtoolbar providing access to 3D tools.

Figure 331: 3D-Objects toolbar

(1) Cube
(2) Sphere
(3) Cylinder
(4) Cone
(5) Pyramid
(6) Torus
(7) Shell
(8) Half Sphere

3D-Settings

The tools on the 3D-Settings toolbar (Figure 332) are only active when an object has been converted to 3D using **Toggle Extrusion** and the converted object is selected.

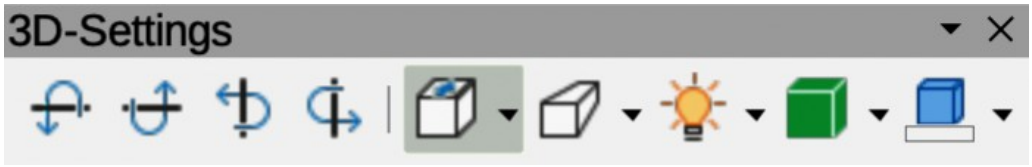

Figure 332: 3D-Settings toolbar

(1) Toggle Extrusion
(2) Tilt Down
(3) Tilt Up
(4) Tilt Left
(5) Tilt Right
(6) Depth
(7) Direction
(8) Lighting
(9) Surface
(10) 3D Color

For the following tools on the 3D-Settings toolbar click on the triangle ▼ on the right of the icon for access to various options as follows:

Depth

3D extrusion depth — *0cm; 1cm; 2.5cm; 5cm; 10cm; Infinity; Custom*. The measurement unit depends on the ruler settings in **Tools > Options > LibreOffice Draw > General** (macOS **LibreOffice > Preferences > LibreOffice Draw > General**).

Direction

3D extrusion direction and type — *Parallel; Perspective*.

Lighting

Lighting direction and lighting level of 3D extrusion — *Bright; Normal; Dim*.

Surface

Surface type of 3D extrusion — *Wire Frame; Matt; Plastic; Metal*.

3D Color

Color of 3D extrusion. Select a color from one of the available color palettes.

Align Objects

The Align Objects toolbar (Figure 333) provides tools for aligning several objects with each other in a drawing.

Figure 333: Align Objects toolbar

The tools available on the Align Objects toolbar, from left to right, are as follows:

Left

Aligns the left edges of selected objects. If only one object is selected in Draw, the left edge of the object is aligned to the left page margin.

Centered

Horizontally centers selected objects. If only one object is selected in Draw, the center of the object is aligned to the horizontal center of the page.

Right

Aligns the right edges of selected objects. If only one object is selected in Draw, the right edge of the object is aligned to the right page margin.

Top

Vertically aligns top edges of the selected objects. If only one object is selected in Draw, the top edge of the object is aligned to the upper page margin.

Center

Vertically centers selected objects. If only one object is selected in Draw, the center of the object is aligned to the vertical center of the page.

Bottom

Vertically aligns the bottom edges of selected objects. If only one object is selected in Draw, the bottom edge of the object is aligned to the lower page margin.

Comments

The Comments toolbar (Figure 334) provides tools for adding, deleting, editing and navigation of comments in a drawing. To use comments, it is recommended to add the name and initials of all users in **Tools > Options > LibreOffice > User Data** (macOS **LibreOffice > Preferences > LibreOffice > User Data**). Adding user names identifies comments that have been inserted.

Figure 334: Comments toolbar

(1) Comment
(2) Previous Comment
(3) Next Comment
(4) Delete Comment
(5) Delete All Comments

Distribute Selection

The Distribute Selection toolbar (Figure 335) provides tools to distribute three or more selected objects along a horizontal axis or vertical axis. Also, the spacing between objects can be evenly distributed horizontally and vertically.

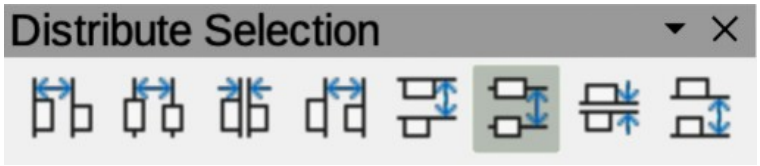

Figure 335: Distribute Selection toolbar

Distribute Horizontally Left

Distributes the selected objects, so that the left edges of the objects are evenly spaced from one another.

Distribute Horizontally Center

Distributes the selected objects, so that the horizontal centers of the objects are evenly spaced from one another.

Distribute Horizontally Spacing

Distributes the selected objects horizontally, so that the objects are evenly spaced from one another.

Distribute Horizontally Right

Distributes the selected objects, so that the right edges of the objects are evenly spaced from one another.

Distribute Vertically Top

Distributes the selected objects, so that the top edges of the objects are evenly spaced from one another.

Distribute Vertically Center

Distributes the selected objects, so that the vertical centers of the objects are evenly spaced from one another.

Distribute Vertically Spacing

Distributes the selected objects vertically, so that the objects are evenly spaced from one another.

Distribute Vertically Bottom

Distributes the selected objects, so that the bottom edges of the objects are evenly spaced from one another.

Drawing

The Drawing toolbar (Figure 336) provides the tools used to create graphic objects in a drawings. By default, this toolbar is docked on the left side of the Workspace. Some tool shapes on the Drawing toolbar change depending on the last tool that was previously selected and used.

If required, click on the triangle ▼ to the right of a tool icon to open a pop-up toolbar, then select the required shape to add to a drawing. Click on the handle at the top of a pop-up toolbar and drag to an empty area on the main window. For more information, see “Floating subtoolbars” on page 357 and Figure 329 on page 357.

Figure 336: Drawing toolbar

(1) Select
(2) Zoom & Pan
(3) Zoom
(4) Text Box
(5) Vertical Text
(6) Insert Fontwork
(7) Line Color
(8) Fill Color
(9) Line
(10) Rectangle
(11) Ellipse
(12) Line Ends with Arrow
(13) Lines and Arrows
(14) Curves and Polygons
(15) Connectors
(16) Basic Shapes
(17) Symbol Shapes
(18) Block Arrows
(19) Flowchart
(20) Callouts
(21) Stars and Banners
(22) 3D Objects
(23) Position and Size
(24) Rotate
(25) Flip
(26) Align Objects
(27) Arrange
(28) Select at least three objects to distribute
(29) Shadow
(30) Crop Image
(31) Filter
(32) Points F8
(33) Show Gluepoint Function
(34) To Curve
(35) To Polygon
(36) To 3D
(37) T0 3D Rotation Object
(38) Toggle Extrusion
(39) Insert
(40) Controls

Edit Points

The Edit Points toolbar (Figure 337) provides tools for editing the points of a curve or polygon, or an object that has been converted to a curve or polygon. The toolbar only becomes active when an object is selected. Click on **Edit Points** on the Drawing or Standard toolbar, or use the keyboard shortcut *F8* to open the toolbar.

Figure 337: Edit Points toolbar

(1) Edit Points
(2) Move Points
(3) Insert Points
(4) Delete Points
(5) Convert to Curve
(6) Close Bezier
(7) Split Curve
(8) Corner Point
(9) Smooth Transition
(10) Symmetric Transition
(11) Eliminate Points

Find

The Find toolbar (Figure 338) opens by default and is docked in the bottom left corner of the LibreOffice Draw main window above the **Status bar**. This toolbar can be undocked from its default position and made into a floating toolbar.

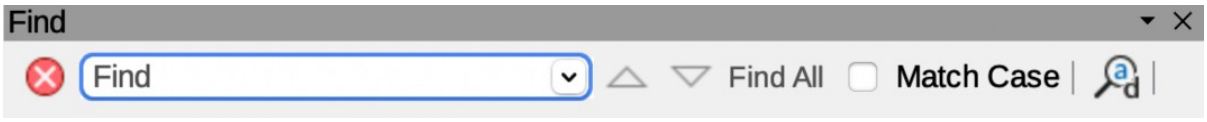

Figure 338: Find toolbar

(1) Close Find Bar
(2) Find Text
(3) Find Previous
(4) Find Next
(5) Find All
(6) Match Case
(7) Find and Replace

Fontwork

The Fontwork toolbar (Figure 339) is used to create graphical text objects in a slide and provide the tools for editing a graphical text object. This toolbar only becomes active when a Fontwork graphical text object has been selected on a drawing.

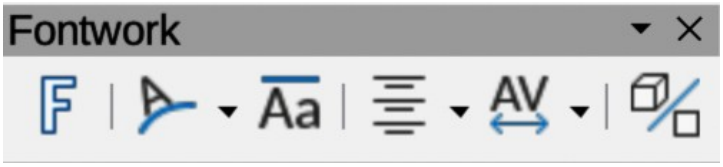

Figure 339: Fontwork toolbar

(1) Insert Fontwork Text
(2) Fontwork Shape
(3) Fontwork Same Letter Heights
(4) Fontwork Alignment
(5) Fontwork Character Spacing
(6) Toggle Extrusion

Some tools on the Fontwork toolbar have a triangle ▼ to the right of the tool. Click on this triangle to open a subtoolbar, or drop-down option list.

Fontwork Shape

Select the required shape for a Fontwork graphical text object from the options available.

Fontwork Alignment

Select the paragraph alignment from the options available.

Fontwork Character Spacing

Select the required character spacing from the options available.

Form Controls

The Form Controls toolbar (Figure 340) provides the tools required to create an interactive form. This allows controls to be added to a form in a drawing. For example, a button that opens a document, drawing, spreadsheet, or slide.

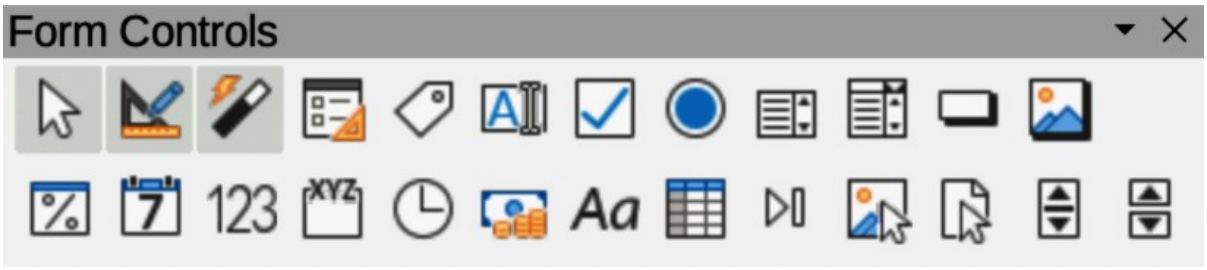

Figure 340: Form Controls toolbar

(1) Select
(2) Design Mode
(3) Toggle Form Control Wizards
(4) Form Design
(5) Control Properties
(6) Form Properties
(7) Label
(8) Text Box
(9) Check Box
(10) Option Button
(11) List Box
(12) Combo Box
(13) Push Button
(14) Image Button
(15) Formatted Field
(16) Date Field
(17) Numerical Field
(18) Group Box
(19) Time Field
(20) Currency Field
(21) Pattern Field
(22) Table Control
(23) Navigation Bar
(24) Image Control
(25) File Selection
(26) Spin Button
(27) Scrollbar

Form Design

The Form Design toolbar (Figure 341) opens a form in **Design Mode** so that it can be edited. Controls of the form cannot be activated, or its contents edited when in **Design Mode**. However, the position and size of the controls can be changed, properties edited, and controls added or deleted in **Design Mode**.

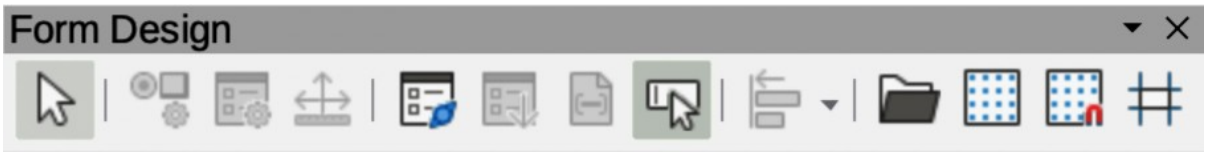

Figure 341: Form Design toolbar

(1) Select
(2) Control Properties
(3) Form Properties
(4) Position and Size
(5) Form Navigator
(6) Activation Order
(7) Add Field
(8) Automatic Control Focus
(9) Bring to Front
(10) Send to Back
(11) Group
(12) Ungroup
(13) Enter Group
(14) Exit Group
(15) Align Objects
(16) Open in Design Mode
(17) Display Grid
(18) Snap to Grid
(19) Helplines While Moving

Form Navigation

The Form Navigation toolbar (Figure 342) provides tools to edit a database table or control data view. The toolbar is normally displayed at the bottom of a document that contains fields that are linked to a database. This toolbar is only active when forms are connected to a database, which is why an inactivate toolbar is shown in Figure 342.

The Form Navigation toolbar allows movement within records as well as inserting and deleting records. If data is saved in a form, the changes are transferred to the database. This toolbar also provides tools providing sort, filter, and search functions for data records.

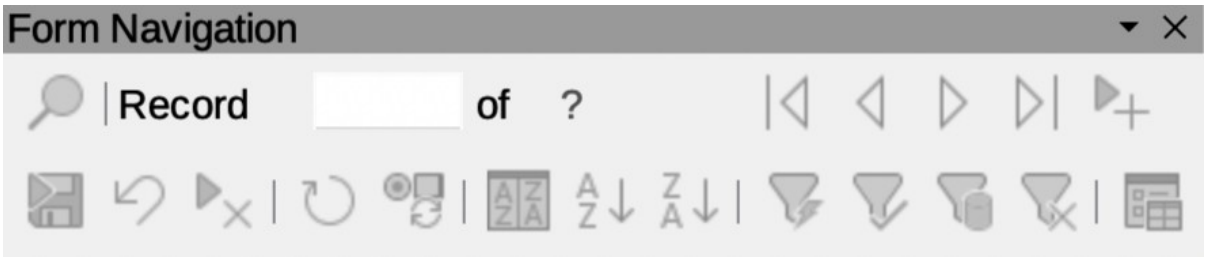

Figure 342: Form Navigation toolbar

(1) Find Record
(2) Record
(3) Absolute Record
(4) Text -> Record
(5) Total No. of Records
(6) First Record
(7) Previous Record
(8) Next Record
(9) Last Record
(10) New Record
(11) Save Record
(12) Undo: Data entry
(13) Delete Record
(14) Refresh
(15) Refresh Control
(16) Sort
(17) Sort Ascending
(18) Sort Descending
(19) AutoFilter
(20) Apply Filter
(21) Form-Based Filters
(22) Reset Filter/Sort
(23) Data source as Table

Gluepoints

The Gluepoints toolbar (Figure 343) provides tools to insert a gluepoint or modify the properties of a gluepoint. A gluepoint is a point where a connector is attached to an object. By default, LibreOffice automatically places a gluepoint at the center of each side of the bounding rectangle for every object created.

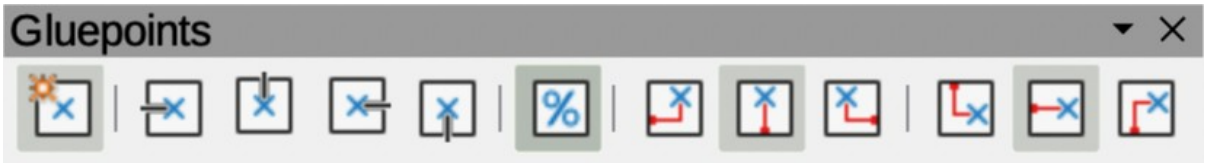

Figure 343: Gluepoints toolbar

(1) Insert Glue Point
(2) Exit Direction Left
(3) Exit Direction Top
(4) Exit Direction Right
(5) Exit Direction Bottom
(6) Glue Point Relative
(7) Glue Point Horizontal Left
(8) Glue Point Horizontal Center
(9) Glue Point Horizontal Right
(10) Glue Point Vertical Top
(11) Glue Point Vertical Center
(12) Glue Point Vertical Bottom

Image

The Image toolbar (Figure 344) provides tools to edit, modify, align, reposition and resize images. The toolbar only becomes active and available when an image is selected in a drawing. The Image toolbar automatically replaces the Line and Filling toolbar when it becomes active.

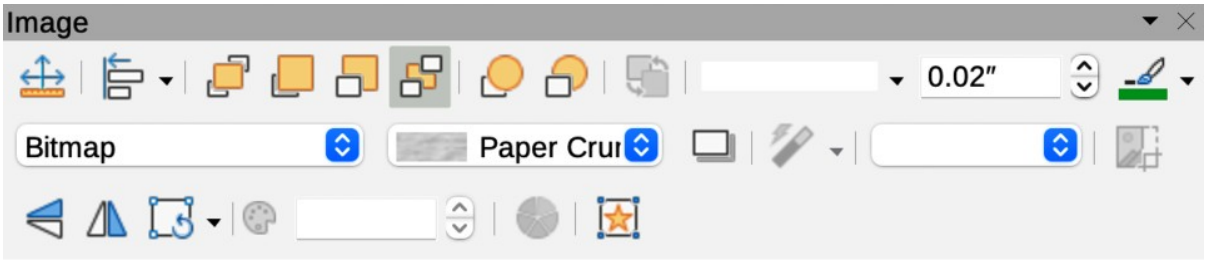

Figure 344: Image toolbar

(1) Position and Size
(2) Align Objects
(3) Left
(4) Centered
(5) Right
(6) Top
(7) Center
(8) Bottom
(9) Arrange
(10) Bring to Front
(11) Bring Forward
(12) Send Backward
(13) Send to Back
(14) In Front of Object
(15) Behind Object
(16) Reverse
(17) Line Style
(18) Line Width
(19) Line Color
(20) Area Style/Filling
(21) Fill Color
(22) Shadow
(23) Filter
(24) Image Mode
(25) Crop
(26) Vertically
(27) Horizontally
(28) Transformations
(29) Transparency
(30) Color
(31) Line
(32) Area
(33) Animation
(34) Interaction

Insert

The Insert toolbar (Figure 345) provides tools for inserting objects into a drawing such as table, images, media, formulas, charts, and OLE objects.

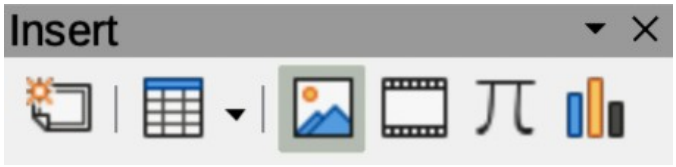

Figure 345: Insert toolbar

(1) New Page
(2) Floating Frame
(3) Insert Page from File
(4) Table
(5) Image
(6) Insert Audio or Video
(7) Formula Object
(8) Chart
(9) OLE Object

Legacy Circles and Ovals

The Legacy Circles and Ovals toolbar (Figure 346) provides tools to insert different types of circles and ovals into a drawing.

Figure 346: Legacy Circles and Ovals toolbar

(1) Insert Ellipse
(2) Circle
(3) Ellipse Pie
(4) Circle Pie
(5) Ellipse Segment
(6) Circle Segment
(7) Ellipse, Unfilled
(8) Circle, Unfilled
(9) Ellipse Pie, Unfilled
(10) Circle Pie, Unfilled
(11) Ellipse Segment, Unfilled
(12) Circle Segment, Unfilled
(13) Arc
(14) Circle Arc

Legacy Rectangles

The Legacy Rectangles toolbar (Figure 347) provides tools to insert different types of rectangles and squares into a slide.

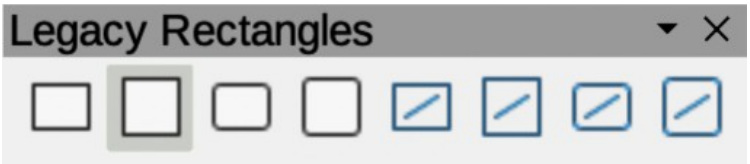

Figure 347: Legacy Rectangles toolbar

(1) Insert Rectangle
(2) Square
(3) Rectangle, Rounded
(4) Rounded Square
(5) Rectangle, Unfilled
(6) Square, Unfilled
(7) Rounded Rectangle, Unfilled
(8) Rounded Square, Unfilled

Line and Filling

The Line and Filling toolbar (Figure 348) provides tools and drop-down lists for editing lines, arrows, and object borders. The tools available depends on the type of object selected for editing.

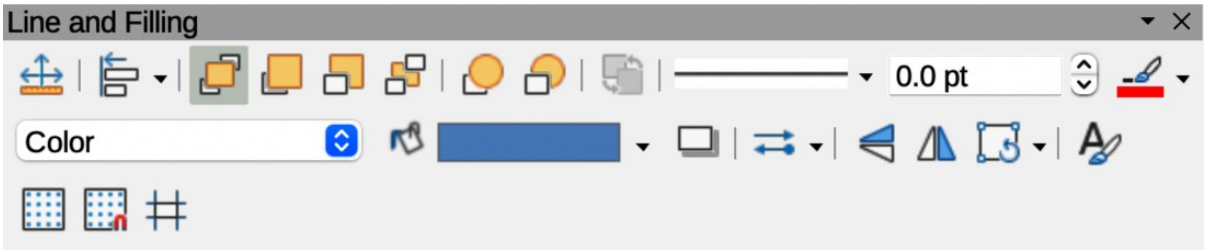

Figure 348: Line and Filling toolbar

(1) Position and Size
(2) Align Objects
(3) Left
(4) Centered
(5) Right
(6) Top
(7) Center
(8) Bottom
(9) Arrange
(10) Bring to Front
(11) Bring Forward
(12) Send Backward
(13) Send to Back
(14) In Front of Object
(15) Behind Object
(16) Reverse
(17) Line Style
(18) Line Width
(19) Line Color
(20) Area Style/Filling
(21) Fill Color
(22) Shadow
(23) Arrow Style
(24) Vertically
(25) Horizontally
(26) Transformations
(27) Line
(28) Area
(29) 3D Effects
(30) Image Map
(31) Animation
(32) Interaction
(33) Show the Styles Sidebar
(34) Display Grid
(35) Helplines While Moving

Master View

The Master View toolbar (Figure 349) provides tools for creating, renaming, deleting, and closing the master view. This toolbar is only active when Draw is in master view mode.

Figure 349: Master View toolbar

(1) New Master
(2) Rename Master
(3) Delete Master
(4) Close Master View

Media Playback

The Media Playback toolbar (Figure 350) provides the tools required to insert, view, play, and listen to audio and video files. The toolbar only becomes active when an audio or video file is selected. LibreOffice Draw supports many different media formats depending on the computer operating system being used.

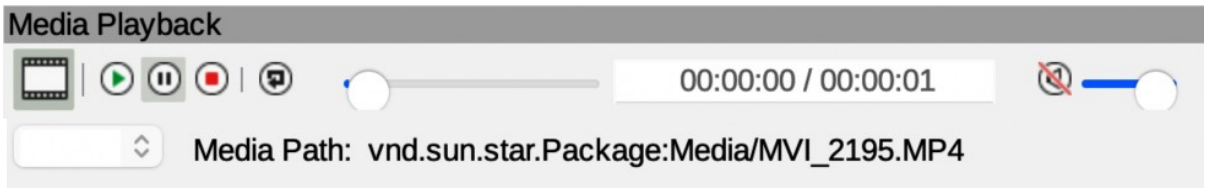

Figure 350: Media Playback toolbar

(1) Insert Audio or Video
(2) Play
(3) Pause
(4) Stop
(5) Repeat
(6) Position
(7) Mute
(8) Volume
(9) View

Options

The Options toolbar (Figure 351) provides tools for editing various settings for newly created presentations, for example how objects snap to the grid when being moved or resized.

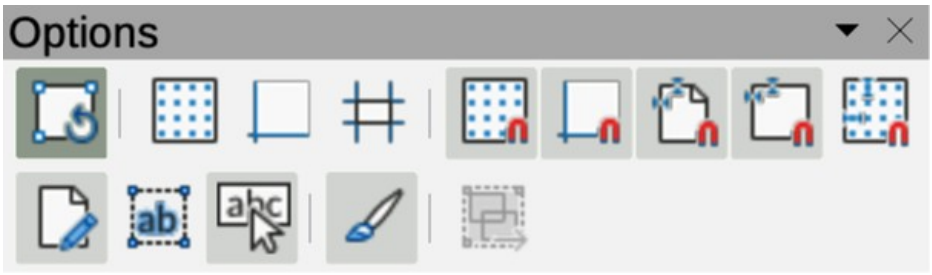

Figure 351: Options toolbar

(1) Rotation Mode after Clicking Object
(2) Display Grid
(3) Display Snap Guides
(4) Helplines While Moving
(5) Snap to Grid
(6) Snap to Snap Guides
(7) Snap to Page Margins
(8) Snap to Object Borders
(9) Snap to Object Points
(10) Allow Quick Editing
(11) Select Text Area Only
(12) Double-click to edit Text
(13) Modify Object with Attributes
(14) Exit All Groups

Redaction

The Redaction toolbar (Figure 352) is used to block portions of a drawing when protecting sensitive information. Redaction helps enterprises and organizations to comply with regulations on confidentiality or privacy.

When a redacted drawing is exported, any redacted portions are removed from a drawing and replaced by redaction blocks of pixels. This prevents any attempt in restoring or copying the original contents. A redacted drawing is often exported as PDF for publication or sharing.

Figure 352: Redaction toolbar

(1) Rectangle
(2) Freeform
(3) Redacted Export (White)
(4) Redacted Export (Black)
(5) PDF

Standard

The Standard toolbar (Figure 353) is common to all LibreOffice components providing the most common tools used for creating and editing documents using LibreOffice. The Standard toolbar differs between LibreOffice components to allow for the toolsets required when creating different types of documents.

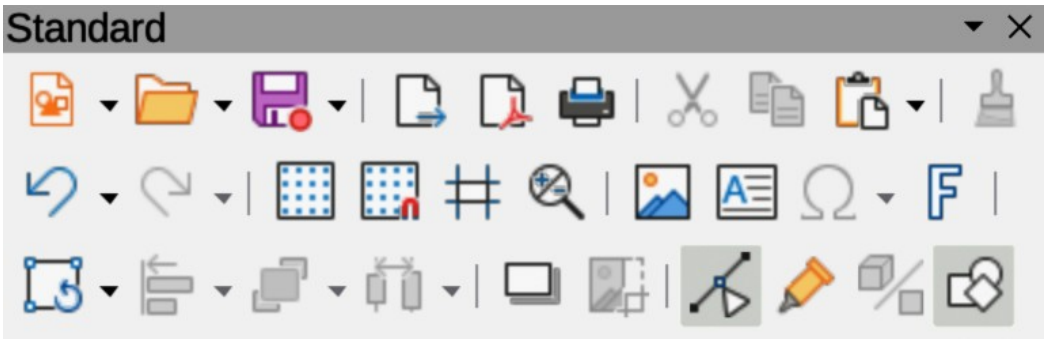

Figure 353: Standard toolbar

(1) Load URL
(2) New
(3) Templates
(4) Open
(5) Open Remote
(6) Save
(7) Save As
(8) Email
(9) Edit Mode
(10) Export Directly as PDF
(11) Print Directly
(12) Print
(13) Cut
(14) Copy
(15) Paste
(16) Clone Formatting
(17) Clear
(18) Undo
(19) Redo
(20) Find and Replace
(21) Spelling
(22) Auto Spellcheck
(23) Zoom & Pan
(24) Zoom
(25) Display Grid
(26) Helplines While Moving
(27) Display Views
(28) Views Tab Bar
(29) Format Slide
(30) Master Slide
(31) Start from First Slide
(32) Start from Current Slide
(33) Table
(34) Insert Image
(35) Insert Audio or Video
(36) Insert Chart
(37) Text Box
(38) Insert Special Characters
(39) Vertical Text
(40) Insert Fontwork Text
(41) Insert Hyperlink
(42) Show Draw Function
(43) Interaction
(44) LibreOffice Help
(45) What's That

Standard (Viewing Mode)

The Standard (Viewing Mode) toolbar (Figure 354) provides tools for saving, editing, and distributing a drawing.

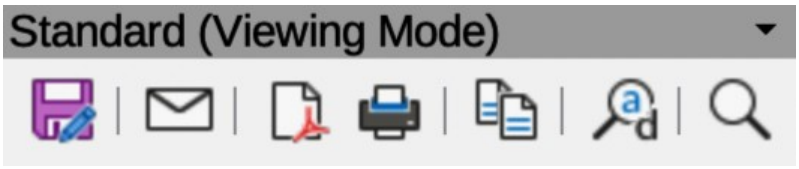

Figure 354: Standard (ViewingMode) toolbar

(1) Save As
(2) Edit Mode
(3) Read Only Mode
(4) Email
(5) Export Directly as PDF
(6) EPUB
(7) Print Directly
(8) Print
(9) Copy
(10) Find and Replace
(11) Zoom

Table

The Table toolbar (Figure 355) provides tools and options to edit and format a table inserted into a drawing. This toolbar only becomes active when a table is selected.

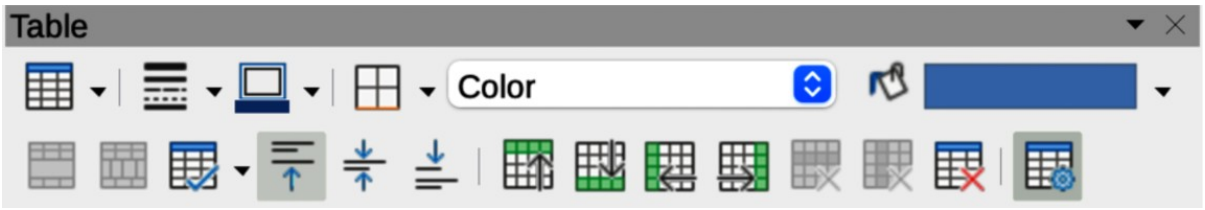

Figure 355: Table toolbar

(1) Table
(2) Border Style
(3) Border Color
(4) Borders (Shift to overwrite)
(5) Area Style/Filling
(6) Fill Color
(7) Merge Cells
(8) Split Cells
(9) Optimize
(10) Align Top
(11) Center Vertically
(12) Align Bottom
(13) Insert Row Above
(14) Insert Row Below
(15) Insert Column Before
(16) Insert Column After
(17) Delete Row
(18) Delete Column
(19) Delete Table
(20) Select Table
(21) Select Column
(22) Select Row
(23) Table Design
(24) Table Properties

Text

The Text toolbar (Figure 356) provides tools to insert text boxes and callouts into a drawing.

Figure 356: Text toolbar

(1) Insert Text Box
(2) Fit Text in Text Box Size
(3) Callouts
(4) Insert Vertical Text
(5) Fit Vertical Text to Frame
(6) Vertical Callouts

Text Formatting

The Text Formatting toolbar (Figure 357) provides tools for formatting text and alignment commands. This toolbar becomes active when text in a text box or graphic object has been selected and it automatically replaces the Line and Filling toolbar.

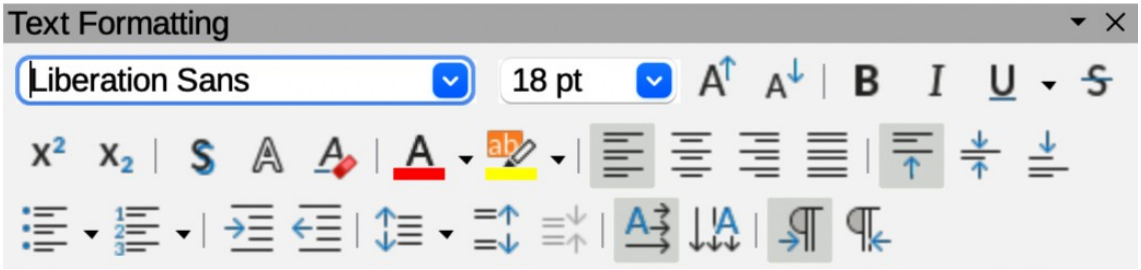

Figure 357: Text Formatting toolbar

(1) Font Name
(2) Font Size
(3) Increase Font Size
(4) Decrease Font Size
(5) Bold
(6) Italic
(7) Underline
(8) Double Underline
(9) Strikethrough
(10) Overline
(11) Superscript
(12) Subscript
(13) Toggle Shadow
(14) Apply outline attribute to font
(15) Clear Direct Formatting
(16) lowercase
(17) UPPERCASE
(18) SMALL CAPITALS
(19) Font Color
(20) Character Highlighting Color
(21) Toggle Unordered List
(22) Toggle Ordered List
(23) Outline Format
(24) Align Left
(25) Align Center
(26) Align Right
(27) Justified
(28) Align Top
(29) Center Vertically
(30) Align Bottom
(31) Set Line Spacing
(32) Character Spacing
(33) Increase Paragraph Spacing
(34) Decrease Paragraph Spacing
(35) Text direction from left to right
(36) Text direction from top to bottom
(37) Left-To-Right
(38) Right-To-Left
(39) Select All
(40) Character
(41) Paragraph

Transformations

The Transformations toolbar (Figure 358) provides tools to modify the shape, orientation, or fill of selected objects.

Figure 358: Transformations toolbar

(1) Rotate
(2) Flip
(3) In 3D Rotation Object
(4) Set in Circle (perspective)
(5) Set to circle (slant)
(6) Distort
(7) Interactive transparency tool
(8) Interactive gradient tool

Zoom

The Zoom toolbar (Figure 359) provides tools to reduce or enlarge the screen display of the current drawing.

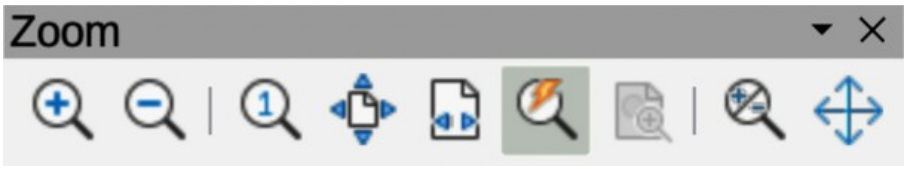

Figure 359: Zoom toolbar

(1) Zoom In
(2) Zoom Out
(3) 100%
(4) Zoom Previous
(5) Zoom Next
(6) Entire Page
(7) Page Width
(8) Optimal View
(9) Object Zoom
(10) Zoom & Pan
(11) Shift

Subtoolbars

3D-Objects

Click on the triangle ▼ to the right of **3D-Objects** on the Drawing toolbar to open the 3D-Objects subtoolbar (Figure 360), then select a 3D object to add to a drawing. The 3D-Objects subtoolbar is identical to the 3D-Objects toolbar available at **View > Toolbars** on the Menu bar.

Figure 360: 3D-Objects subtoolbar

(1) Cube
(2) Sphere
(3) Cylinder
(4) Cone
(5) Pyramid
(6) Torus
(7) Shell
(8) Half Sphere

Align Objects

To make a drawing look more professional, objects can be aligned with each other using one of the following methods to align objects. Select one or more objects before opening the Align Objects subtoolbar (Figure 361).

Figure 361: Align Objects subtoolbar

The Align Objects subtoolbar is also available as a toolbar. Go to **View > Toolbars > Align Objects** on the Main menu bar. The alignment tools available are as follows:

Left

Aligns the left edges of the selected objects. If only one object is selected, the left edge of the object is aligned to the left page margin.

Centered

Horizontally centers the selected objects. If only one object is selected, the center of the object is aligned to the horizontal center of the page.

Right

Aligns the right edges of the selected objects. If only one object is selected, the right edge of the object is aligned to the right page margin.

Top

Vertically aligns the top edges of the selected objects. If only one object is selected, the top edge of the object is aligned to the top page margin.

Center

Vertically centers the selected objects. If only one object is selected, the center of the object is aligned to the vertical center of the page.

Bottom

Vertically aligns the bottom edges of the selected objects. If only one object is selected, the bottom edge of the object is aligned to the bottom page margin.

Basic Shapes

Click on the triangle ▼ to the right of **Basic Shapes** on the Drawing toolbar to open the Basic Shapes subtoolbar (Figure 362), then select a basic shape to add to a drawing.

Figure 362: Basic Shapes subtoolbar

(1) Rectangle
(2) Rectangle, Rounded
(3) Square
(4) Square, Rounded
(5) Parallelogram
(6) Trapezoid
(7) Ellipse
(8) Circle
(9) Circle Pie
(10) Circle Segment
(11) Arc
(12) Block Arc
(13) Isosceles Triangle
(14) Right Triangle
(15) Diamond
(16) Regular Pentagon
(17) Hexagon
(18) Octagon
(19) Cylinder
(20) Cube
(21) Folded Corner
(22) Cross
(23) Frame
(24) Ring

Block Arrows

Click on the triangle ▼ to the right of **Block Arrows** on the Drawing toolbar to open the Block Arrows subtoolbar (Figure 363), then select a block arrow to add to a drawing.

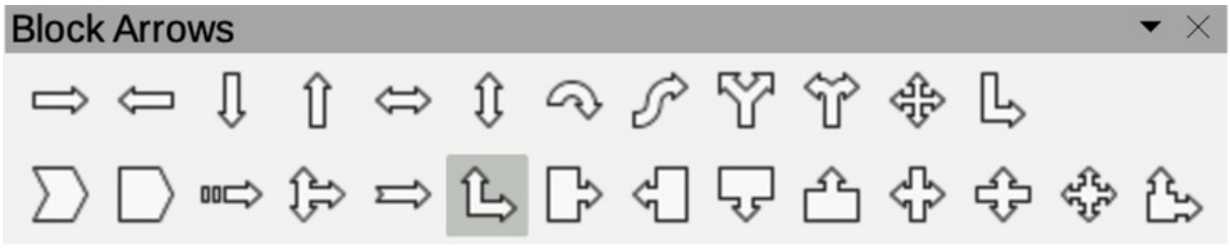

Figure 363: Block Arrows subtoolbar

(1) Right Arrow
(2) Left Arrow
(3) Down Arrow
(4) Up Arrow
(5) Left and Right Arrow
(6) Up and Down Arrow
(7) Circular Arrow
(8) S-shaped Arrow
(9) Split Arrow
(10) Right or Left Arrow
(11) 4-way Arrow
(12) Corner Right Arrow
(13) Chevron
(14) Pentagon
(15) Striped Right Arrow
(16) Up, right and Down Arrow
(17) Notched Right Arrow
(18) Up and Right Arrow
(19) Right Arrow Callout
(20) Left Arrow Callout
(21) Down Arrow Callout
(22) Up Arrow Callout
(23) Left and Right Arrow Callout
(24) Up and Down Arrow Callout
(25) 4-way Arrow Callout
(26) Up and Right Arrow Callout

Callouts

Click on the triangle ▼ to the right of **Callouts** on the Drawing toolbar to open the Callouts sub-toolbar (Figure 364), then select a callout to add to a drawing.

Figure 364: Callouts subtoolbar

(1) Rectangular Callout
(2) Rounded Rectangular Callout
(3) Round Callout
(4) Cloud
(5) Line Callout 1
(6) Line Callout 2
(7) Line Callout 3

Color

The Color subtoolbar (Figure 365) provides tools to edit the color properties of a selected object. After selecting an image or graphic to open the Image toolbar, click on **Color** on the Image toolbar.

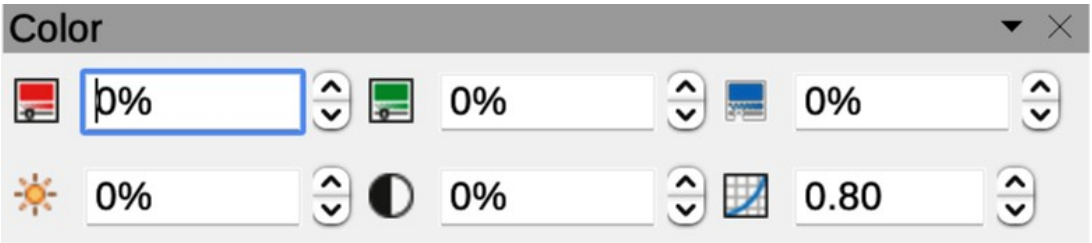

Figure 365: Color subtoolbar

The tools available on the Color subtoolbar are as follows:

Red

Specifies the proportion of red RGB color components for the selected graphic object. Values from -100% (no red) to +100% (full red) are possible.

Green

Specifies the proportion of green RGB color components for the selected graphic object. Values from -100% (no green) to +100% (full green) are possible.

Blue

Specifies the proportion of blue RGB color components for the selected graphic. Values from -100% (no blue) to +100% (full blue) are possible.

Brightness

Specifies the brightness for the selected graphic object. Values from -100% (only black) to +100% (only white) are possible.

Contrast

Specifies the contrast for viewing the selected graphic image. Values from -100% (no contrast at all) to +100% (full contrast) are possible.

Gamma

Specifies the gamma value for the view of the selected object, which affects the brightness of the mid-tone values. Values from 0.10 (minimum Gamma) to 10 (maximum Gamma) are possible.

Connectors

Click on the triangle ▼ to the right of **Connectors** on the Drawing toolbar to open the Connectors sub-toolbar (Figure 366), then select a connector to add to a drawing.

Figure 366: Connectors subtoolbar

(1) Connector Ends with Arrow
(2) Straight Connector Ends with Arrow
(3) Curved Connector Ends with Arrow
(4) Line Connector Ends with Arrow
(5) Connector
(6) Straight Connector
(7) Curved Connector
(8) Line Connector
(9) Connector Starts with Arrow
(10) Straight Connector starts with Arrow
(11) Curved Connector Starts with Arrow
(12) Line Connector Starts Arrow
(13) Connector Ends with Circle
(14) Straight Connector Ends with Circle
(15) Curved Connector Ends with Circle
(16) Line Connector Ends with Circle
(17) Connector Starts with Circle
(18) Straight Connector starts with Circle
(19) Curved Connector Starts with Circle
(20) Line Connector Starts with Circle
(21) Connector with Circles
(22) Straight Connector with Circle
(23) Curved Connector with Circle
(24) Line Connector with Circle

Curves and Polygons

Click on the triangle ▼ to the right of **Curves and Polygons** on the Drawing toolbar to open the Curves and Polygons sub-toolbar (Figure 367), then select a curve or polygon to add to a drawing.

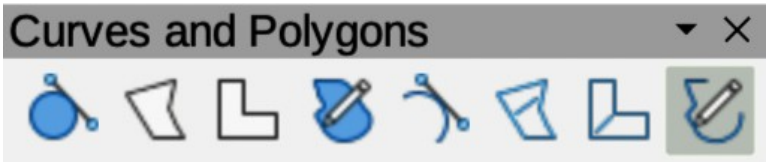

Figure 367: Curves and Polygons subtoolbar

(1) Curve, Filled
(2) Polygon, Filled
(3) Polygon (45°), Filled
(4) Freeform Line, Filled
(5) Curve
(6) Polygon
(7) Polygon (45°)
(8) Freeform Line

Distribute Selection

Distributing objects allows three or more objects to be evenly spaced along a horizontal or vertical axis. Objects are distributed using the outermost objects as base points for spacing. Select at least three objects, then use one of the following methods to distribute the objects:

- Right-click on the selected objects, then select **Distribute Selection** from the context menu and one of the available options.
- Go to **View > Toolbars** on the Menu bar and select **Distribute Selection** to open the Distribute Selection subtoolbar (Figure 368).
- Go to **Shape > Distribute Selection** on the Menu bar and select a distribution option.
- Right-click on the selected objects and select **Distribute Selection** from the context menu, then select a distribution option.

Figure 368: Distribute Selection subtoolbar

The Distribute subtoolbar is also available as a toolbar. Go to **View > Toolbars > Distribute Selecttion** on the Main menu bar. The distribution options available are as follow:

Horizontal Left

Distributes the selected objects so that the left edges of the objects are evenly spaced from one another.

Horizontal Center

Distributes the selected objects so that the horizontal centers of the objects are evenly spaced from one another.

Horizontal Spacing

Distributes the selected objects horizontally so that the objects are evenly spaced from one another.

Horizontal Right

Distributes the selected objects so that the right edges of the objects are evenly spaced from one another.

Vertical Top

Distributes the selected objects so that the top edges of the objects are evenly spaced from one another.

Vertical Center

Distributes the selected objects so that the vertical centers of the objects are evenly spaced from one another.

Vertical Spacing

Distributes the selected objects vertically so that the objects are evenly spaced from one another.

Vertical Bottom

Distributes the selected objects so that the bottom edges of the objects are evenly spaced from one another.

Flowchart

Click on the triangle ▼ to the right of **Flowchart** on the Drawing toolbar to open the Flowchart sub-toolbar (Figure 369), then select a flowchart shape to add to a drawing.

Figure 369: Flowchart subtoolbar

(1) Flowchart: Process
(2) Flowchart: Alternate Process
(3) Flowchart: Decision
(4) Flowchart: Data
(5) Flowchart: Predefined Process
(6) Flowchart: Internal Storage
(7) Flowchart: Document
(8) Flowchart: Multidocument
(9) Flowchart: Terminator
(10) Flowchart: Preparation
(11) Flowchart: Manual Input
(12) Flowchart: Manual Operation
(13) Flowchart: Connector
(14) Flowchart: Off-page Connector
(15) Flowchart: Card
(16) Flowchart: Punched Tape
(17) Flowchart: Summing Junction
(18) Flowchart: Or
(19) Flowchart: Collate
(20) Flowchart: Sort
(21) Flowchart: Extract
(22) Flowchart: Merge
(23) Flowchart: Stored Data
(24) Flowchart: Delay
(25) Flowchart: Sequential Access
(26) Flowchart: Magnetic Disc
(27) Flowchart: Direct Access Storage
(28) Flowchart: Display

Figure 370: Fontwork Shape subtoolbar

(1) Plain Text
(2) Wave
(3) Inflate
(4) Stop
(5) Curve Up
(6) Curve Down
(7) Triangle Up
(8) Triangle Down
(9) Fade Right
(10) Fade Left
(11) Fade Up
(12) Fade Down
(13) Slant Up
(14) Slant Down
(15) Fade Up and Right
(16) Fade Up and Left
(17) Chevron Up
(18) Chevron Down
(19) Arch Up (Curve)
(20) Arch Down (Curve)
(21) Arch Left (Curve)
(22) Arch Right (Curve)
(23) Circle (Curve)
(24) Open Circle (Curve)
(25) Arch Up (Pour)
(26) Arch Down (Pour)
(27) Arch Left (Pour)
(28) Arch Right (Pour)
(29) Circle (Pour)
(30) Open Circle (Pour)

Fontwork Shape

Clicking on the triangle ▼ to the right of **Fontwork Shape** on the Fontwork toolbar opens the Fontwork Shape subtoolbar (Figure 370). Select the required shape to change how a Fontwork text shape appears in a drawing.

Image Filter

Clicking on the triangle ▼ to the right of **Filter** on the Image toolbar opens the Image Filter sub-toolbar (Figure 371). Select the required filter to change how an image appears on the display.

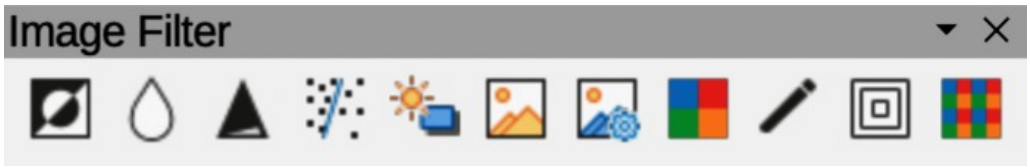

Figure 371: Image Filter subtoolbar

The filters available on the Image Filter subtoolbar are as follows:

Invert

Inverts the color values of a color image, or the brightness values of a greyscale image. Apply the filter again to revert the effect.

Smooth

Softens or blurs the image by applying a low pass filter.

Sharpen

Sharpens the image by applying a high pass filter.

Remove Noise

Removes noise by applying a median filter.

Solarization

Opens a dialogue box for defining solarization. Solarization refers to an effect that looks like what can happen when there is too much light during photo development. The colors become partly inverted.

Aging

All pixels are set to their gray values, and then the green and blue color channels are reduced by the amount specified. The red color channel is not changed.

Posterize

Opens a dialogue box to determine the number of poster colors. This effect is based on the reduction of the number of colors. It makes photos look like paintings.

Pop Art

Converts an image to a pop-art format.

Charcoal Sketch

Displays the image as a charcoal sketch. The contours of the image are drawn in black, and the original colors are suppressed.

Relief

Displays a dialogue box for creating reliefs. Selecting the position of the imaginary light source determines the type of shadow created, and how the graphic image looks in relief.

Mosaic

Joins small groups of pixels into rectangular areas of the same color. The larger the individual rectangles are, the fewer details the graphic image has.

Lines and Arrows

Click on the triangle ▼ to the right of **Lines and Arrows** on the Drawing toolbar to open the Lines and Arrows sub-toolbar (Figure 372), then select a line or arrow to add to a drawing.

Figure 372: Lines and Arrows subtoolbar

(1) Line Ends with Arrow
(2) Line with Circle/Arrow
(3) Line with Square/Arrow
(4) Line with Arrows
(5) Line Starts with Arrow
(6) Line with Arrow/Circle
(7) Line with Arrow/Square
(8) Insert Line
(9) Dimension Line
(10) Line (45°)

Position

Click on the triangle ▼ to the right of **Arrange** on the Line and Filling toolbar to open the Position subtoolbar (Figure 373), then select the position of a selected object in a drawing.

Figure 373: Position subtoolbar

(1) Bring to Front
(2) Bring Forward
(3) Send Backward
(4) Send to Back
(5) In Front of Object
(6) Behind Object
(7) Reverse

Stars and Banners

Click on the triangle ▼ to the right of **Stars and Banners** on the Drawing toolbar to open the Stars and Banners sub-toolbar (Figure 374), then select a star or arrow to add to a drawing.

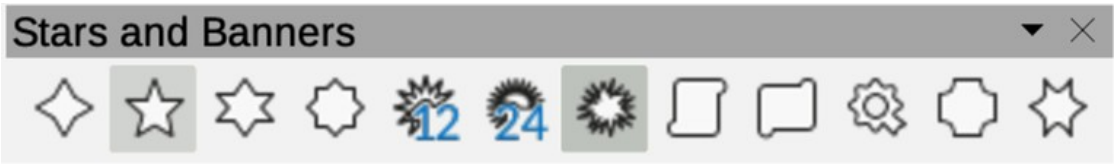

Figure 374: Stars and Banners subtoolbar

(1) 4-Point Star
(2) 5-Point Star
(3) 6-Point Star
(4) 8-Point Star
(5) 12-Point Star
(6) 24-Point Star
(7) Explosion
(8) Vertical Scroll
(9) Horizontal Scroll
(10) Signet
(11) Doorplate
(12) 6-Point Star, Concave

Symbol Shapes

Click on the triangle ▼ to the right of **Symbol Shapes** on the Drawing toolbar to open the Symbol Shapes sub-toolbar (Figure 375), then select a symbol shape to add to a drawing.

Figure 375: Symbol Shapes subtoolbar

(1) Smiley Face
(2) Heart
(3) Sun
(4) Moon
(5) Cloud
(6) Lightning Bolt
(7) Flower
(8) Prohibited
(9) Puzzle
(10) Square Bevel
(11) Octagon Bevel
(12) Diamond Bevel
(13) Double Bracket
(14) Left Bracket
(15) Right Bracket
(16) Double Brace
(17) Left Brace
(18) Right Brace

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Draw Guide

Working With Vector Graphics

About this book:

This book covers the main features of Draw, the vector graphics component of LibreOffice. Using Draw, a wide variety of graphical images can be created.

Vector graphics store and display a picture as simple geometric elements such as lines, circles, and polygons rather than as a collection of pixels (points on the screen). This permits simpler storage and supports precise scaling of the picture elements.

Draw is fully integrated into LibreOffice. This simplifies exchanging graphics with Writer, Calc, and Impress. Images can be exported in many formats for use in other programs.

About the authors:

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

A PDF version of this book can be downloaded free from:
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24.8

Fantastic Community - Fun Project - Free Office Suite