



LibreOffice
Community



Getting Started Guide 7.2

Chapter 7 *Getting Started with Draw*

Vector Drawing in LibreOffice

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Feedback

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Note

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

Publication date and software version

Published September 2021. Based on LibreOffice 7.2 Community.
Other versions of LibreOffice may differ in appearance and functionality.

Using LibreOffice on macOS

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

<i>Windows or Linux</i>	<i>macOS equivalent</i>	<i>Effect</i>
Tools > Options menu selection	LibreOffice > Preferences	Access setup options
Right-click	<i>Control</i> +click or right-click depending on computer setup	Open a context menu
<i>Ctrl</i> (Control)	⌘ (Command)	Used with other keys
<i>F11</i>	⌘+T	Open the Styles deck on the Sidebar

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What is Draw?

LibreOffice Draw is a vector graphics drawing program. It can also perform some operations on raster graphics (pixels). Using Draw, you can easily and quickly create a wide variety of graphical images.

Vector graphics store and display an image as an assembly of simple geometric elements such as lines, circles, and polygons, rather than a collection of pixels (points on the screen). Vector graphics allow for easier storage and scaling of the image.

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

The functionality of Draw is extensive. Draw was not designed to rival high-end graphics applications, but it possesses more functionality than the drawing tools that are integrated with many office productivity suites.

A few examples of the drawing functions are: layer management, magnetic grid-point system, dimensions and measurement display, connectors for making organization charts and other diagrams, 3D functions for creating small three-dimensional drawings (with texture and lighting effects), drawing and page-style integration, and Bézier curves.

This chapter introduces some features of Draw, but it does not attempt to cover all of the Draw features. See the *Draw Guide* and LibreOffice Help for more information.

Draw main window

Workspace

The large area in the center of the Draw main window (Figure 1) is the Workspace, where drawings are created. This drawing area can be surrounded with toolbars and information areas. The number and position of the visible tools vary with the task in hand, user preferences, and computer setup.

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

Pages pane

Drawings can be split over several pages. Multi-page drawings are used mainly for presentations. The Pages pane, on the left side of the Draw main window, gives an overview of the pages that are created in a drawing. If the Pages pane is not visible, go to **View > Page Pane** on the Menu bar. To make changes to the page order, drag and drop one or more pages.

Layers bar

A layer is a workplace where you can insert drawing elements and objects. By default, the Workspace consists of three layers (*Layout*, *Controls*, and *Dimension Lines*). The default layers cannot be deleted or renamed, but you can add layers when necessary.

Tabs for default and other layers appear in the Layers bar at the bottom of the Workspace. You can use the Layers bar to navigate between layers, add layers as required, or delete layers that have been added. For more information, see “Working with layers” on page 35.

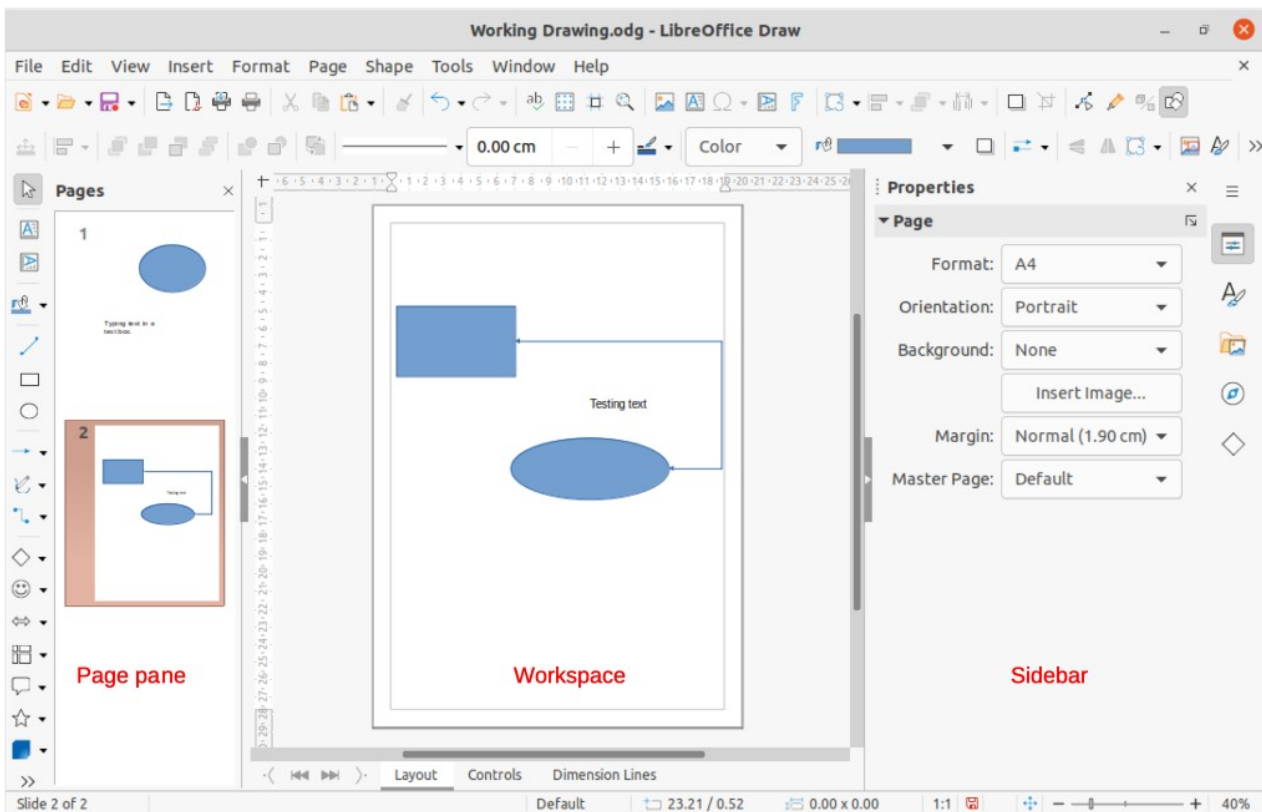


Figure 1: Draw main window

Sidebar

The Sidebar in Draw is similar to the Sidebar in the other LibreOffice components. In Draw, it has five main decks. To open a deck, click on its icon on the right of the Sidebar, or click on the **Sidebar Settings** icon at the top of the tab bar and select a deck in the drop-down list. If the Sidebar is not visible, go to **View > Sidebar** on the Menu bar.

Properties

Contains ten panels where you can change properties of a selected object in a drawing: *Page*, *Character*, *Paragraph*, *Area*, *Effect*, *Shadow*, *Line*, *Position and Size*, *Columns*, and *Image*. Available panels depend on the selected object.

Styles

Provides options to edit and apply *Drawing Styles* to objects within a drawing. When a style is edited or modified, the changes are automatically applied to all of the elements formatted using that style. In Draw, *Presentation Styles* are not available. You can add new styles.

Gallery

From the Gallery deck, objects can be inserted into a drawing either as a copy or as a link. The Gallery is divided into themes: *Arrows*, *BPMN* (Business Process Model and Notation), *Bullets*, *Diagrams*, *Flowchart*, *Icons*, *Network*, *Shapes*, and *Sounds*. You can add new themes. See Chapter 11, Images and Graphics, and the *Draw Guide* for more information.

Navigator

On the Navigator deck, you can quickly select pages and objects in a drawing. It is recommended to give pages and objects meaningful names so that they are easily identified when using the Navigator.

Shapes

Provides quick selection of most items that are available on the Drawing toolbar: *Lines and Arrows*, *Curves and Polygons*, *Connectors*, *Basic Shapes*, *Symbol Shapes*, *Block Arrows*, *Flowchart*, *Callouts*, *Stars and Banners*, and *3D Objects*.

Rulers

Rulers are positioned on the upper and left-hand sides of the Workspace. If they are not visible, go to **View > Rulers** on the Menu bar. The rulers show the size of a selected object using double lines (highlighted in Figure 2). You can also use the rulers to manage object handles and guide lines when positioning objects.

The page margins in the drawing area are also represented on the rulers. You can change the margins directly on the rulers by dragging them with the cursor. The margin areas are indicated by the grayed-out area on the rulers (Figure 2).

To change the measurement units of the rulers, right-click on a ruler and select the measurement unit from the drop-down list, as shown in Figure 3 for the horizontal ruler. The horizontal and vertical rulers can be set to different measurement units.

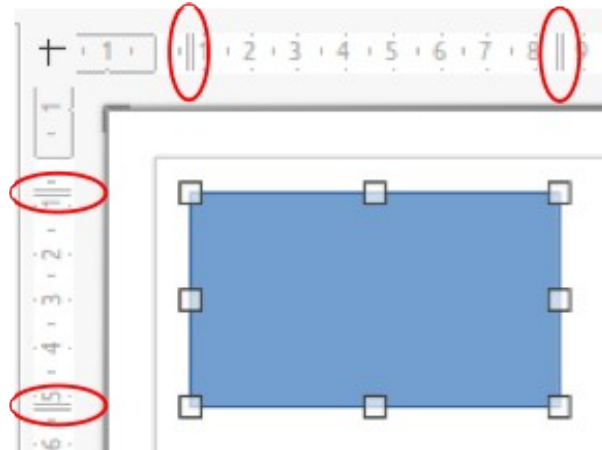


Figure 2: Rulers showing object size

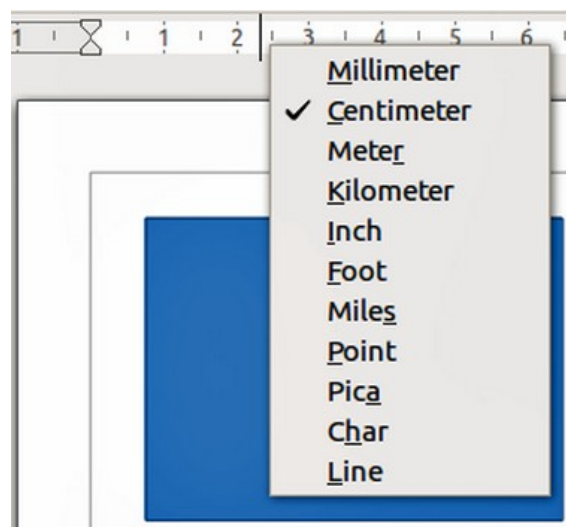


Figure 3: Ruler measurement units

Status bar

The Status bar (Figure 4) is located at the bottom of the Workspace in all LibreOffice components. It includes several Draw-specific fields, which are described where relevant in this chapter. For details on the contents and use of these fields, see Chapter 1, Introducing LibreOffice, in this guide and the *Draw Guide*. To hide the Status Bar, go to **View** on the Menu bar and deselect **Status Bar**.

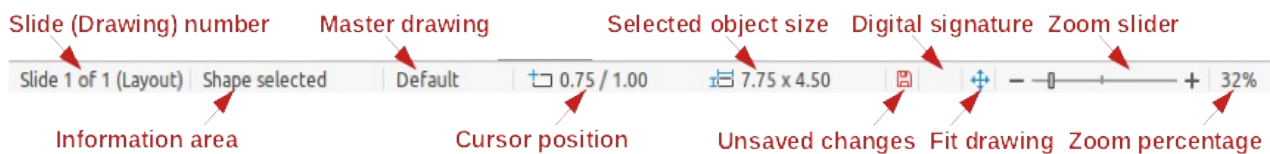


Figure 4: Status bar

Note

The measurement units shown on the Status Bar are set by going to **Tools > Options > LibreOffice Draw > General** on the Menu bar. These units may be different to the measurement units set for the rulers.

Toolbars

To display or hide the various Draw toolbars, go to **View > Toolbars** on the Menu bar and select them in the drop-down menu. For more information on toolbars, see the *Draw Guide*.

The icons used for the tools on each toolbar depend on the computer operating system and how LibreOffice has been set up on a computer. For more information, see Chapter 2, Setting Up LibreOffice.

The three main toolbars used in Draw are:

- **Standard** – this toolbar is the same for all LibreOffice components. By default it is docked at the top of the Workspace when a Draw document is opened (Figure 5).

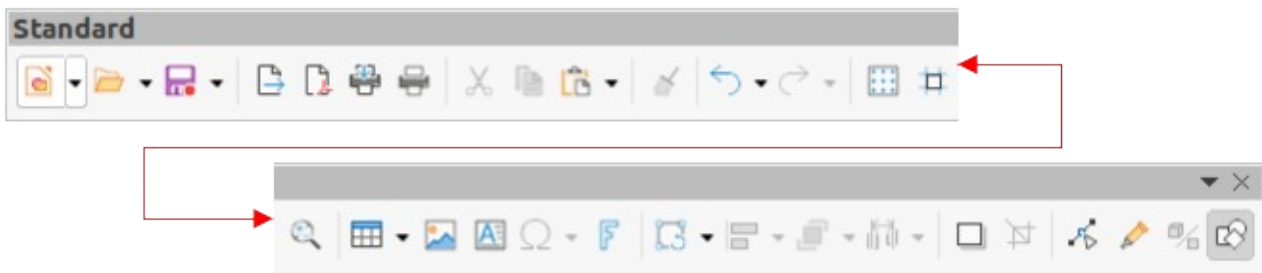


Figure 5: Standard toolbar

- **Drawing** – this toolbar contains all the necessary functions for drawing various geometric and freehand shapes, and for organizing them in the drawing. By default, it is locked into position on the left of the Workspace (Figure 6).



Figure 6: Drawing toolbar

- **Line and Filling** – this toolbar is normally docked at the top of the Workspace below the Standard toolbar. The tools and pull-down lists on this toolbar vary according to the type of object selected. The Line and Filling toolbar (Figure 7) only becomes active when an object on the Workspace is selected.

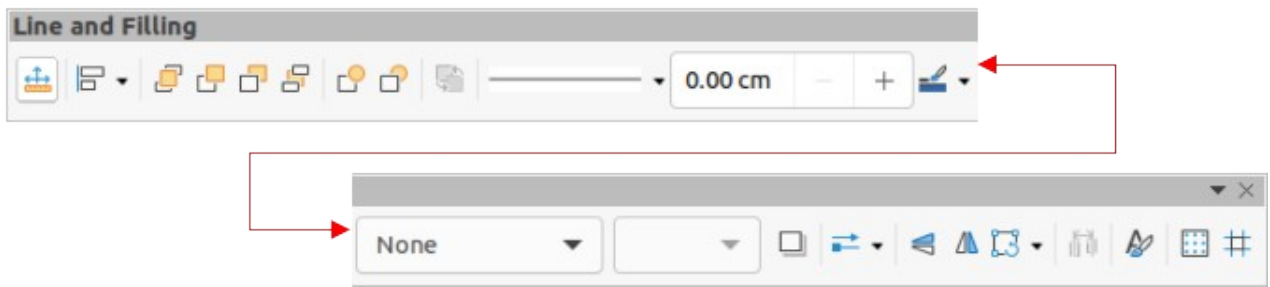


Figure 7: Line and Filling toolbar

Drawing basic shapes

Draw provides a wide range of shapes, located in palettes accessed on the Drawing toolbar or in the Shapes deck on the Sidebar (Figure 8). This section describes only a few of the basic shapes, including text, which are treated as objects in Draw. See the *Draw Guide* for a complete description of the basic shapes available.

Some of the tool icons on the Drawing toolbar change according to the shape that has been selected. Some tools on a toolbar have extra tool palettes available; these are indicated by a small triangle ▼ to the right of the tool icon.

✓ Note

When you draw a basic shape or select one for editing, the Information field in the Status bar changes to reflect the present action, for example *Line created*, *Text frame xxyy selected*, and so on.

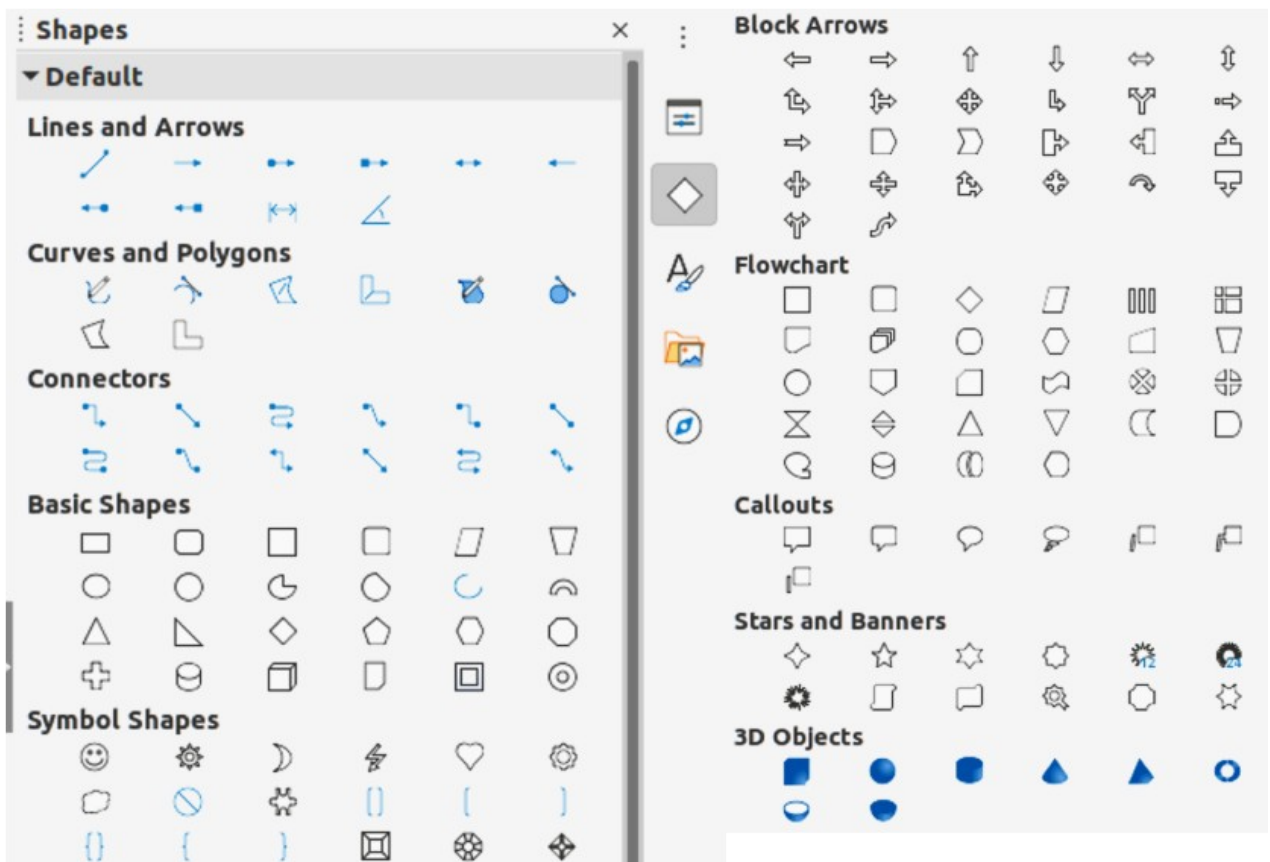


Figure 8: Shapes deck on Sidebar

Straight lines

- 1) Use one of the following methods to start drawing a line:
 - Click on **Insert Line** on the Drawing toolbar.
 - Click the small triangle ▼ on the right of the **Lines and Arrows** tool on the Drawing toolbar and select **Insert Line** in the drop-down list.
 - Click on **Insert Line** in the *Lines and Arrows* section of the Shapes deck on the Sidebar (Figure 8).
- 2) Place the cursor at the starting point on the drawing, then click and drag the cursor to draw a straight line.
- 3) Release the mouse button when the end point is reached and a straight line is created. A selection handle appears at each end of the line, showing that this object is the currently selected object. The selection handle at the starting point of the line is slightly larger than the other selection handle (as shown in Figure 9).

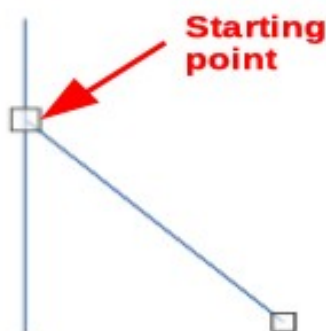


Figure 9: Line starting point

i Tip

To snap the end of a line to the nearest grid point, keep the *Ctrl* key pressed while drawing the line. However, if the **Snap to Grid** option in **View > Snap Guides** on the Menu bar has been selected, the *Ctrl* key deactivates the snap to grid.

To restrict the drawing angle of a line to a multiple of 45 degrees (0, 45, 90, 135, and so on), keep the *Shift* key pressed while drawing the line. However, if the option **When creating or moving objects** in the *Constrain Objects* section of **Tools > Options > LibreOffice Draw > Grid** has been selected, the *Shift* key deactivates this restriction.

To draw a line symmetrically outwards in both directions from the start point, keep the *Alt* key pressed while drawing the line. This draws lines by starting from the center of the line.

When a line is drawn, it uses default attributes. To change any of these attributes and format a line to the drawing requirements, select the line by clicking on it and use one of the following methods to access formatting options for the line:

- Go to the Properties deck on the Sidebar and open the *Line* panel (Figure 10).
- Right-click on a line and select **Line** in the context menu to open the Line dialog (Figure 11).
- Go to **Format > Line** on the Menu bar to open the Line dialog.
- Use the tools **Line Style**, **Line Width**, and **Line Color** on the Line and Filling toolbar.

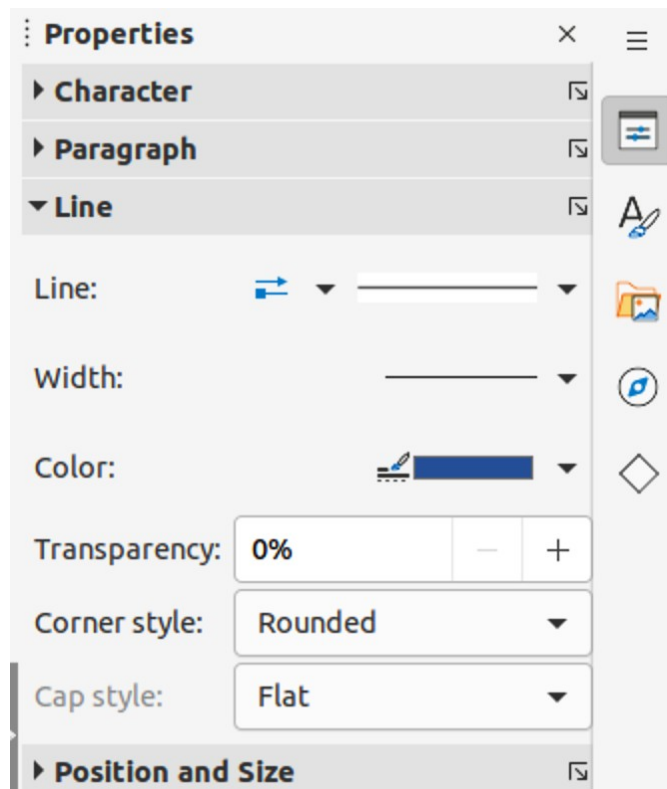


Figure 10: Line panel in Properties deck on Sidebar

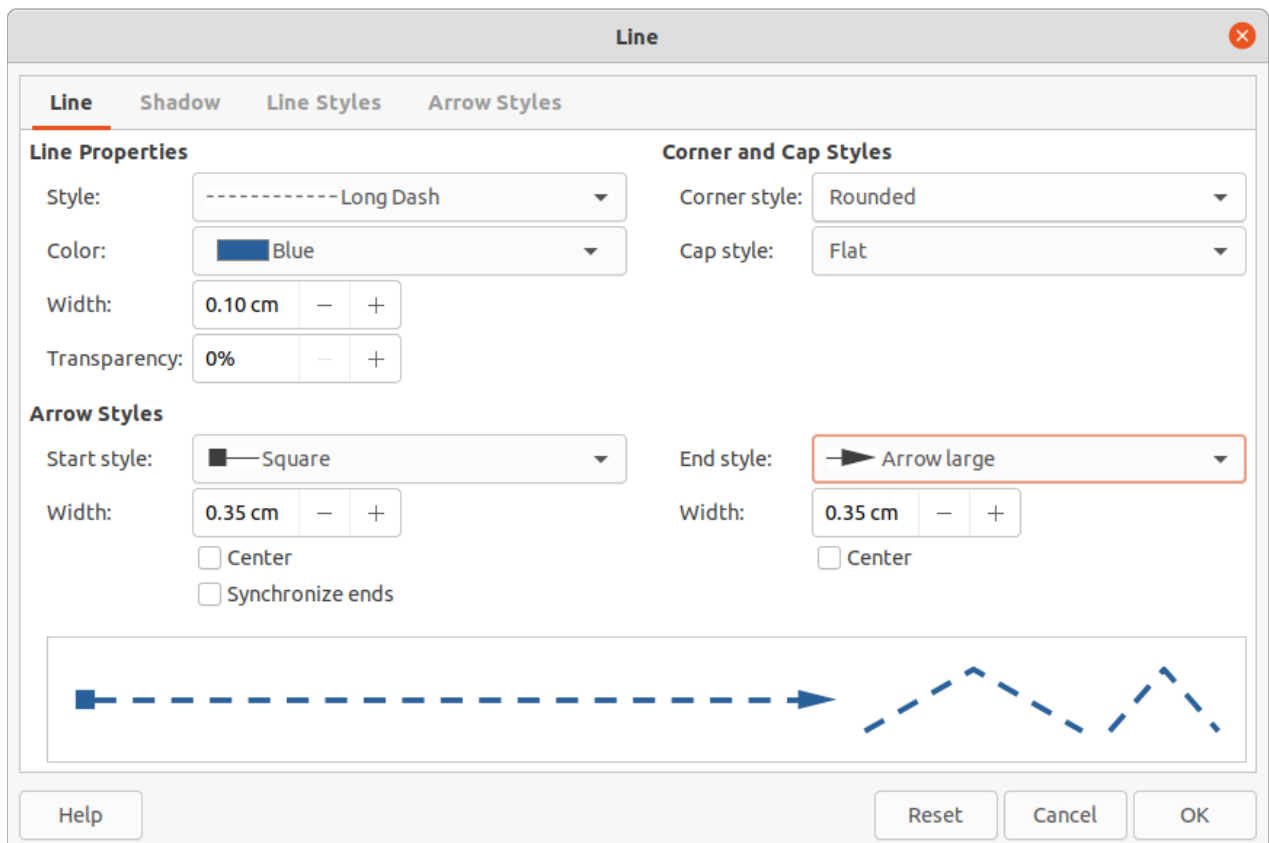


Figure 11: Line dialog - Line page

Arrows

Draw classifies both lines and arrows as lines. Arrows are drawn like straight lines. Hovering the cursor over each tool in the Lines and Arrows sub-toolbar (Figure 12) indicates what type of line or arrow each tool will draw. The information field on the Status Bar shows them only as lines.

- 1) Use one of the following methods to start drawing an arrow:
 - Click the small triangle ▼ on the right of the **Lines and Arrows** tool on the Drawing toolbar and select the type of arrow required from the Lines and Arrows sub-toolbar (Figure 12).
 - Click on the type of arrow required in the *Lines and Arrows* section of the Shapes deck on the Sidebar.
- 2) Place the cursor at the starting point of the arrow, then click and drag the cursor. The arrowhead is drawn at the end point of the arrow when the mouse button is released.

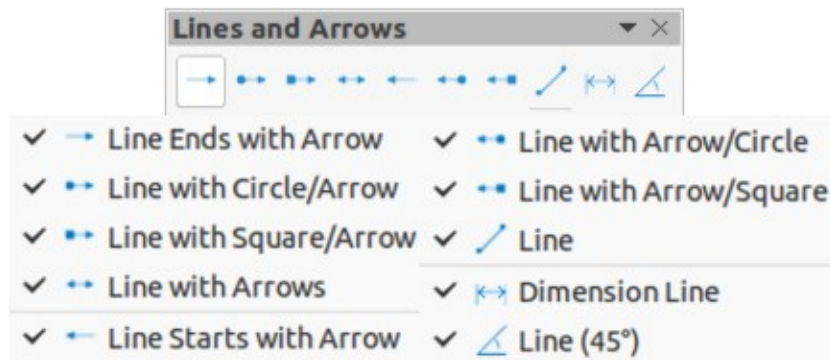


Figure 12: Lines and Arrows sub-toolbar

Tip

To snap the end of an arrow to the nearest grid point, keep the *Ctrl* key pressed while drawing the arrow. However, if the **Snap to Grid** option in **View > Snap Guides** on the Menu bar has been selected, the *Ctrl* key deactivates the snap to grid.

To restrict the drawing angle of an arrow to a multiple of 45 degrees (0, 45, 90, 135, and so on), keep the *Shift* key pressed while drawing the arrow. However, if the option **When creating or moving objects** in the *Constrain Objects* section of **Tools > Options > LibreOffice Draw > Grid** has been selected, the *Shift* key deactivates this restriction.

To draw an arrow symmetrically outwards in both directions from the start point, keep the *Alt* key pressed while drawing the arrow. This draws arrows by starting from the center of the line.

Note

The tool icon for the **Lines and Arrows** tool used most recently will be shown on the Drawing toolbar. This makes it easier to use the same tool again.

Note

After drawing a line or arrow, the line or arrow style can be changed by opening the Line dialog and using the options available on the *Line Styles* or *Arrow Styles* pages.

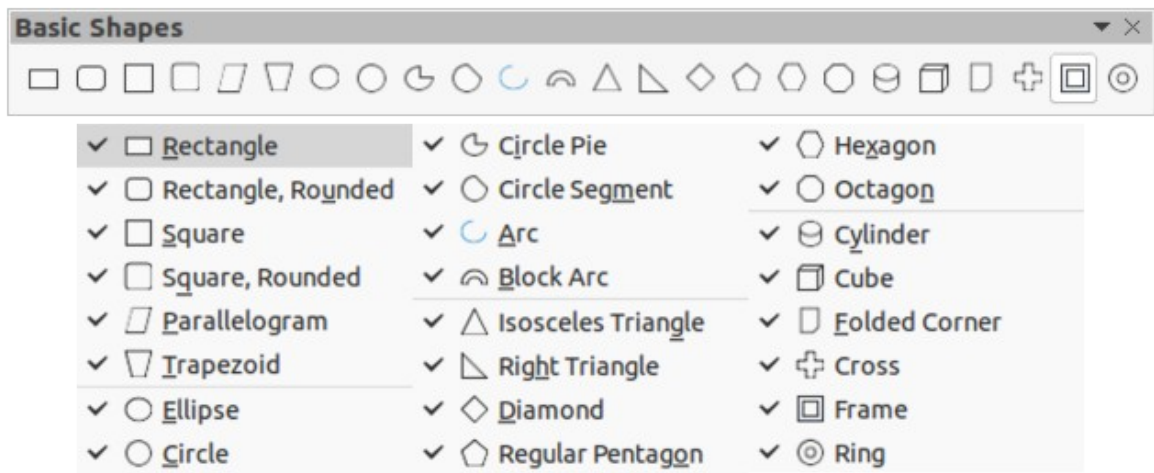


Figure 13: Basic Shapes sub-toolbar

Rectangles

- 1) Use one of the following methods to start drawing a rectangle:
 - Click on **Rectangle** on the Drawing toolbar.
 - Click the small triangle ▼ on the right of the **Basic Shapes** tool on the Drawing toolbar and select **Rectangle** on the Basic Shapes sub-toolbar (Figure 13).
 - Click on **Rectangle** in the *Basic Shapes* section of the Shapes deck on the Sidebar.
 - Select the type of rectangle on the Legacy Rectangles toolbar (Figure 14). To display the toolbar, go to **View > Toolbars** on the Menu bar and select it.
- 2) Place the cursor at the starting point for the rectangle, then click and drag the cursor until the required size is drawn. As the rectangle is drawn, the rectangle appears with its bottom right corner attached to the cursor.
- 3) To draw a rectangle from its center, position the cursor on the drawing, press the mouse button and then hold down the *Alt* key while dragging the cursor. The rectangle uses the start point as the center of the rectangle.

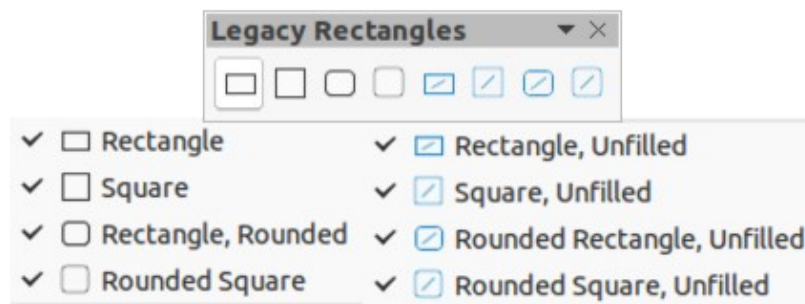


Figure 14: Legacy Rectangles toolbar

Squares

- 1) Use one of the following methods to start drawing a square:
 - Click on **Rectangle** on the Drawing toolbar, then hold down the *Shift* key while dragging the cursor to draw a square.
 - Click the small triangle ▼ on the right of the **Basic Shapes** tool on the Drawing toolbar and select **Square** on the Basic Shapes sub-toolbar (Figure 13).
 - Click on **Square** in the *Basic Shapes* section of the Shapes deck on the Sidebar.

- Select the type of square from the Legacy Rectangles toolbar (Figure 14). To display the toolbar, go to **View > Toolbars** on the Menu bar and select it.
- 2) Place the cursor at the starting point for the square, then click and drag the cursor until the required size is drawn. As the square is drawn, the square appears with its bottom right corner attached to the cursor.
 - 3) To draw a square from its center, position the cursor on the drawing, press the mouse button and then hold down the *Alt* key while dragging the cursor. The square uses the start point as the center of the square.

Ellipses (ovals)

- 1) Use one of the following methods to start drawing an ellipse:
 - Click on **Ellipse** on the Drawing toolbar.
 - Click the small triangle ▼ on the right of the **Basic Shapes** tool on the Drawing toolbar and select **Ellipse** on the Basic Shapes sub-toolbar (Figure 13).
 - Click on **Ellipse** in the *Basic Shapes* section of the Shapes deck on the Sidebar.
 - Select the type of ellipse on the Legacy Circles and Ovals toolbar (Figure 15). To display the toolbar, go to **View > Toolbars** on the Menu bar and select it.
- 2) Place the cursor at the starting point for the ellipse, then click and drag the cursor until the required size is drawn. As the ellipse is drawn, the ellipse appears with its bottom right corner attached to the cursor.
- 3) To draw an ellipse from its center, position the cursor on the drawing, press the mouse button and then hold down the *Alt* key while dragging with the cursor. The ellipse uses the start point as the center of the ellipse.

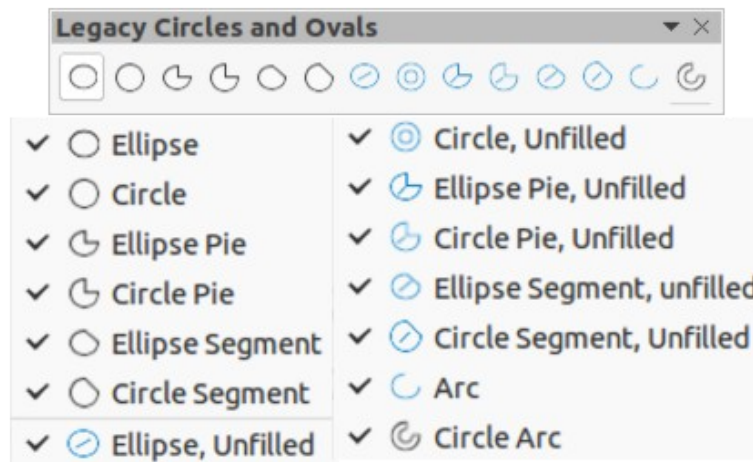


Figure 15: Legacy Circles and Ovals toolbar

Circles

- 1) Use one of the following methods to start drawing a circle:
 - Click on **Ellipse** on the Drawing toolbar, then hold down the *Shift* key while dragging the cursor to draw a circle.
 - Click the small triangle ▼ on the right of the **Basic Shapes** tool on the Drawing toolbar and select **Circle** on the Basic Shapes sub-toolbar (Figure 13).
 - Click on **Circle** in the *Basic Shapes* section of the Shapes deck on the Sidebar.
 - Select the type of circle on the Legacy Circles and Ovals toolbar (Figure 15). To display the toolbar, go to **View > Toolbars** on the Menu bar and select it.

- 2) Place the cursor at the starting point for the circle, then click and drag the cursor until the required size is drawn. As the circle is drawn, the circle appears with its bottom right corner attached to the cursor.
- 3) To draw a circle from its center, position the cursor on the drawing, press the mouse button and then hold down the *Alt* key while dragging with the cursor. The circle uses the start point as the center of the circle.

Tip

To quickly insert a line, rectangle, ellipse, or circle, press and hold down the *Ctrl* key and then click on one of the icons for Line, Rectangle, Ellipse, or Circle and a standard sized object is drawn automatically in the work area. The size, shape, and color are all standard values. These attributes can be changed later, if desired. For more information, see the *Draw Guide*.

Dimension lines

Dimension lines display a measurement of an object in the drawing (Figure 16). The dimension line does not belong to the object itself, but it is normally placed close to it.

- 1) Use one of the following methods to start drawing a dimension line:
 - Click the small triangle ▼ on the right of the **Lines and Arrows** tool on the Drawing toolbar and select **Dimension Line** on the Lines and Arrows sub-toolbar that opens.
 - Click on **Dimension Line** in the *Lines and Arrows* section of the Shapes deck on the Sidebar.
- 2) Place the cursor close to the object to position the start of the dimension line.
- 3) Click and drag the cursor to draw the dimension line. As the dimension line is drawn, the dimension is displayed and automatically calculated.

To change the measurement unit used for dimension lines, go to **Tools > Options > LibreOffice Draw > General** on the Menu bar.

- 4) To change the display of a dimension line and its appearance, right-click on the dimension line and select **Dimensions** in the context menu to open the Dimension Line dialog (Figure 17).
- 5) Select the required options in **Line** and **Legend**, then click **OK** to save the changes and close the Line Dimension dialog.

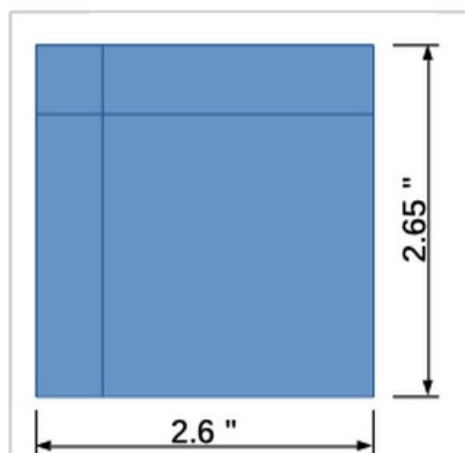


Figure 16: Example of object dimension lines

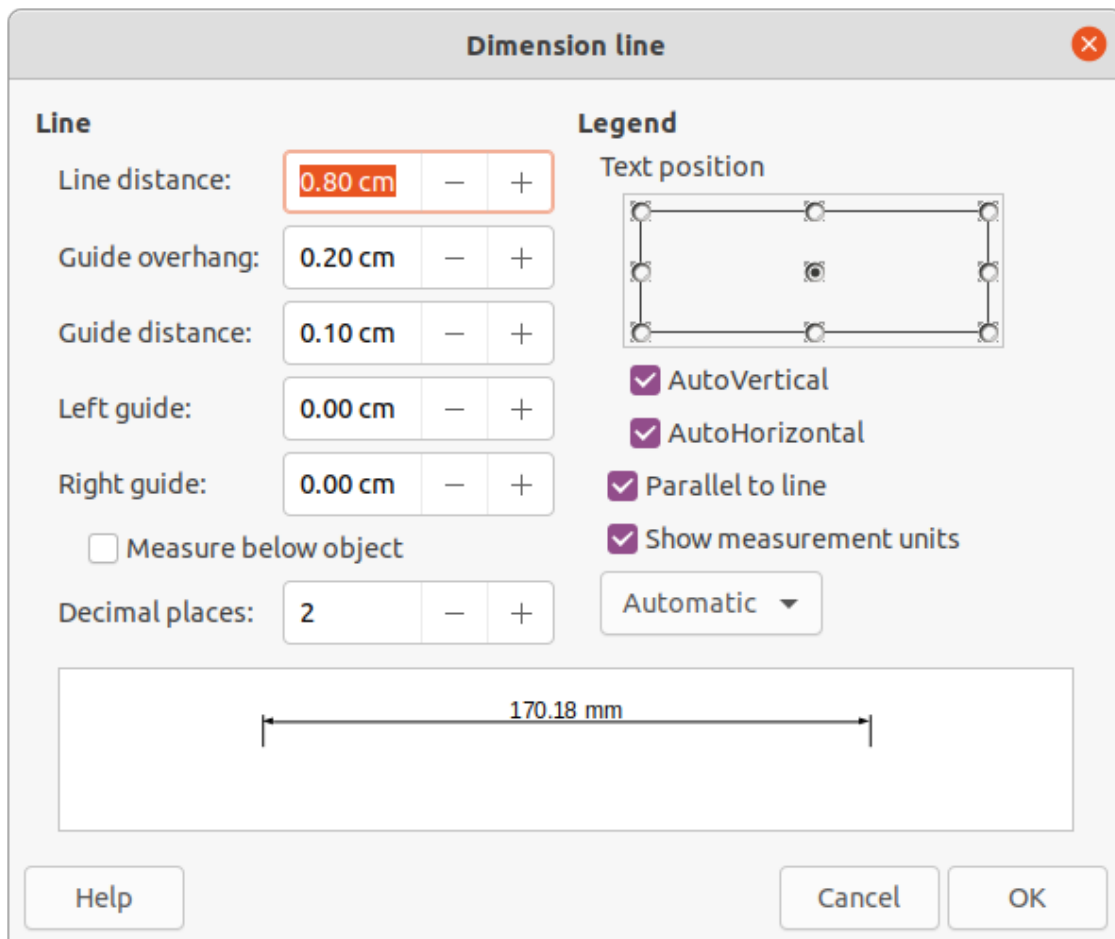


Figure 17: Dimension Line dialog

Curves

- 1) Use one of the following methods to start drawing a curve:
 - Click the small triangle ▼ on the right of the **Curves and Polygons** tool on the Drawing toolbar and select the type of curve on the Curves and Polygons sub-toolbar (Figure 18).
 - Click on the type of curve required in the *Curves and Polygons* section of the Shapes deck on the Sidebar.
- 2) Click and hold the left mouse button to create the starting point of the curve, then drag from the starting point to draw a line. Release the mouse button and continue to drag the cursor to bend the line into a curve.
- 3) Double-click to set the end point of the curve and fix the curve on the drawing. A filled curve automatically joins the last point to the first point, closing the curve and filling it with the selected fill color. A curve without fill will not be closed at the end of drawing the curve.

✓ Note

A single click fixes the curve to the drawing and allows drawing of straight lines from the end of the curve. Each single click allows the drawing of another straight line. Double-click to end drawing a curve with straight lines.

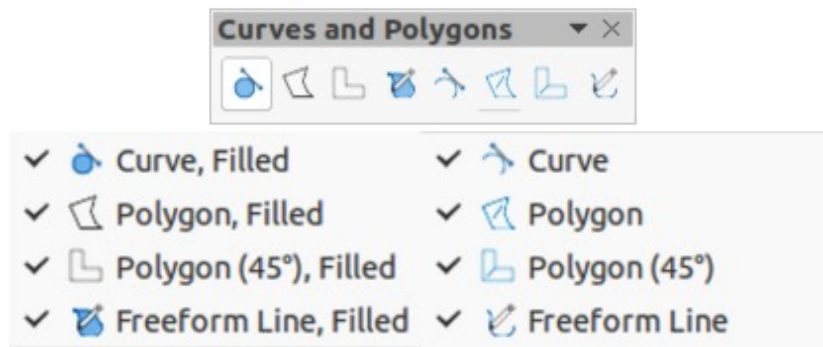


Figure 18: Curves and Polygons sub-toolbar

Polygons

- 1) Use one of the following methods to start drawing a polygon:
 - Click the small triangle ▼ on the right of the **Curves and Polygons** tool on the Drawing toolbar and select the type of polygon on the Curves and Polygons sub-toolbar (Figure 18).
 - Click on the type of polygon required in the *Curves and Polygons* section of the Shapes deck on the Sidebar.
- 2) Click and hold the left mouse button to create the starting point of the polygon, then drag from the starting point to draw a line.
- 3) Release the mouse button and continue to drag the cursor to draw the next line for polygon, then click to mark the end point of the line and to start drawing another line. Holding the *Shift* key down while drawing lines restricts the angles used in the polygon to 45° or 90°.
- 4) Double-click to set the end point of the polygon and fix the polygon on the drawing. A filled polygon automatically joins the last point to the first point, closing the polygon and filling it with the selected fill color. A polygon without fill will not be closed at the end of drawing the polygon.

Polygons 45°

A polygon 45° is drawn using the same procedure as polygons, but the angles between lines are restricted to 45° or 90°. This restriction of angles cannot be changed. However, and if required, hold down the *Shift* key as the line is drawn so that the line is drawn at an angle other than 45 or 90 degrees.

A filled polygon 45° automatically joins the last point to the first point, closing the polygon and filling it with the selected fill color.

Freeform lines

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

- 1) Use one of the following methods to start drawing a freeform line:
 - Click the small triangle ▼ on the right of the **Curves and Polygons** tool on the Drawing toolbar and select the type of freeform line on the Curves and Polygons sub-toolbar (Figure 18).
 - Click on the type of freeform line required in the *Curves and Polygons* section of the Shapes deck on the Sidebar.
- 2) Click and drag the cursor to create the freeform line shape required.

- 3) Release the mouse button when satisfied with the freeform line and the drawing is completed. A filled freeform line automatically joins the last point to the first point, closing the freeform line and filling it with the selected fill color.

Glue points and connectors

Glue points

All Draw objects have glue points, which are not normally displayed. Glue points (Figure 19) become visible on an object when a connector is selected on the Drawing toolbar or in the Shapes deck on the Sidebar.

Most objects have four glue points (Figure 19). More glue points can be added and customized using the Glue Points toolbar (Figure 20). If the Glue Points toolbar is not visible, go to **View > Toolbars > Glue Points** on the Menu bar to open the toolbar. For a more detailed description on adding and using glue points, see the *Draw Guide*.

Glue points are not the same as the selection handles of an object. Selection handles are for moving or changing the shape of an object. Glue points are used to fix or glue a connector to an object so that when the object moves, the connector stays fixed to the object.

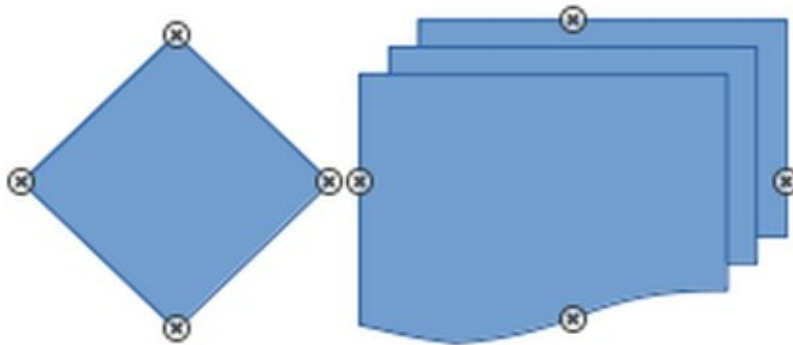


Figure 19: Example of object glue points

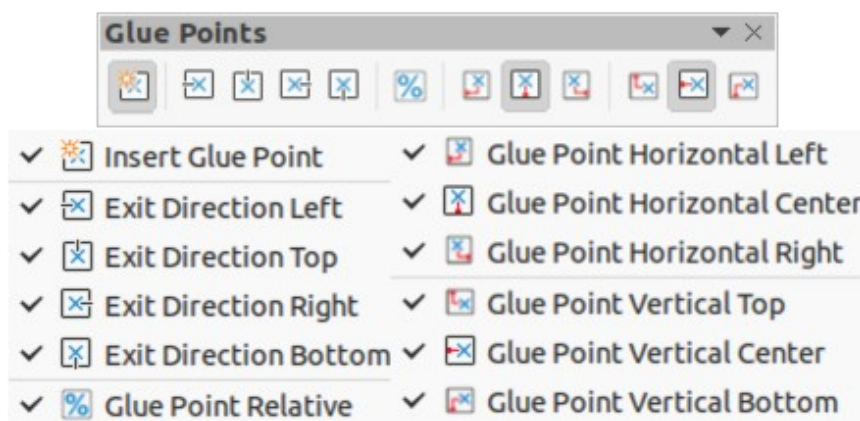


Figure 20: Glue Points toolbar

Connectors

Connectors are lines or arrows whose ends automatically snap to a glue point of an object. Connectors are especially useful in drawing organization charts, flow diagrams, and mind-maps. When objects are moved or reordered, the connectors remain attached to a glue point. Figure 21 shows an example of using two objects and a connector.

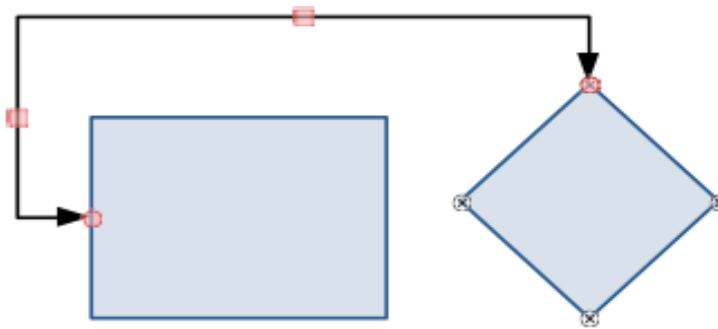


Figure 21: Example of a connector between two objects

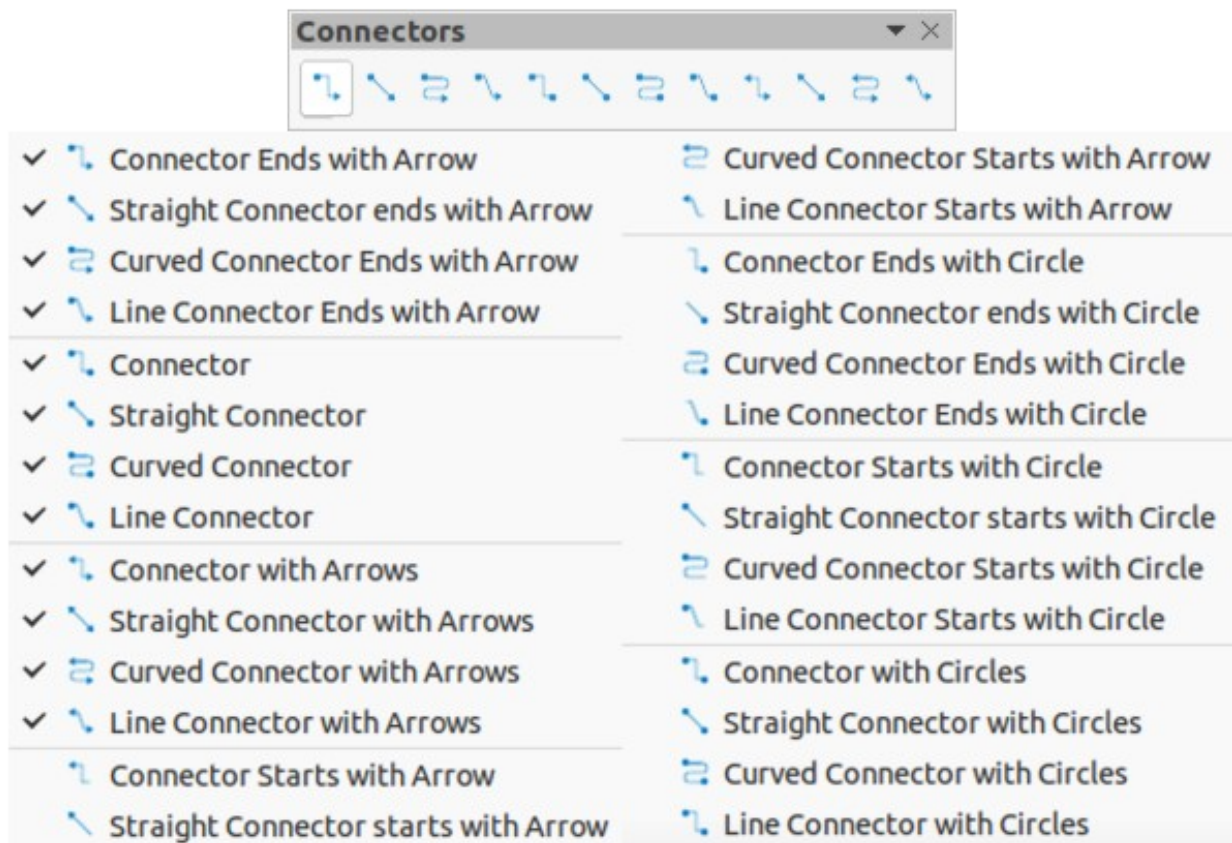


Figure 22: Connectors sub-toolbar

To add a connector between two objects:

- 1) Use one of the following methods to select a connector:
 - Click the small triangle ▼ on the right of the **Connectors** tool on the Drawing toolbar and select the type of connector on the Connector sub-toolbar (Figure 22).
 - Click on the type of connector required in the *Connectors* section of the *Shapes* deck on the Sidebar.
- 2) Move the cursor over one of the objects to be connected. Small crosses (the glue points) appear around the object edges. Click on the required glue point for the start of the connector, then drag the cursor to drag the connector to another object.
- 3) When the cursor is over a glue point of the target object, release the mouse button and the connector is drawn. The connector end point is attached to the glue point.

For a more detailed description of the use of connectors, see the *Draw Guide*.

Geometric shapes

Geometric shapes are similar to basic shapes. They are provided in Draw as a starting point when creating objects for a drawing. Geometric shapes are located on the Drawing toolbar and in the Shapes deck on the Sidebar.

The tool icons on the Drawing toolbar always indicate the last geometric shape drawn. This makes it easier to use the same tool again.

Access geometric shapes using one of the following methods:

- Click on **Shapes** on the Sidebar to open the Shapes deck, then choose from the geometric shapes available.
- Click the small triangle ▼ on the right of a geometric shape on the Drawing toolbar to open a drop-down or sub-toolbar giving access to more geometric shape tools.

Using geometric shapes is similar to drawing rectangles, squares, ellipses, or circles as explained in “Drawing basic shapes” on page 9. Text can be added to all geometric shapes. See “Using text” on page 22 and the *Draw Guide*.

Basic shapes

The Basic Shapes sub-toolbar (Figure 23) also includes rectangle and ellipse tools that are identical to the ones displayed on the Drawing toolbar.

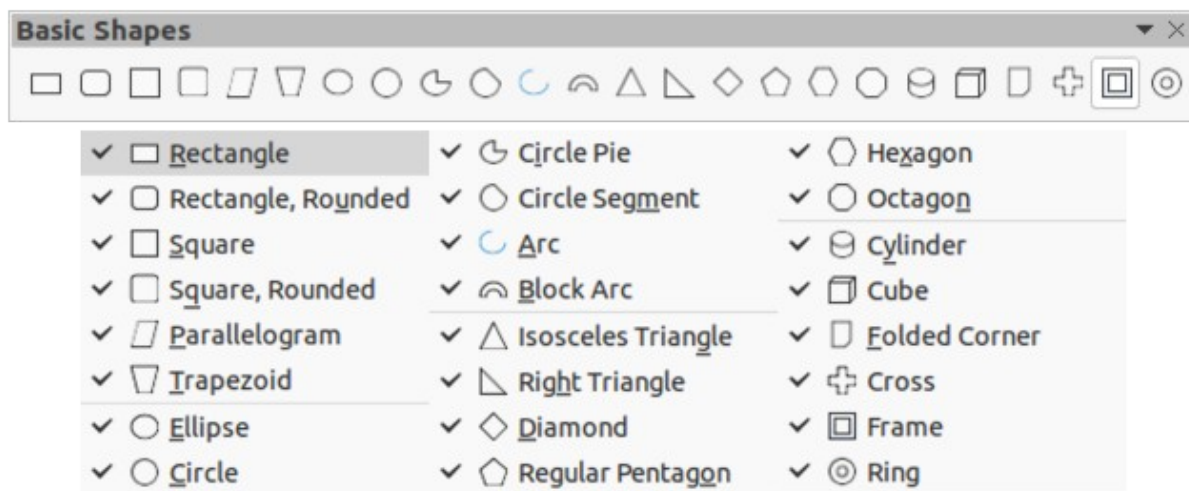


Figure 23: Basic Shapes sub-toolbar

Symbol shapes

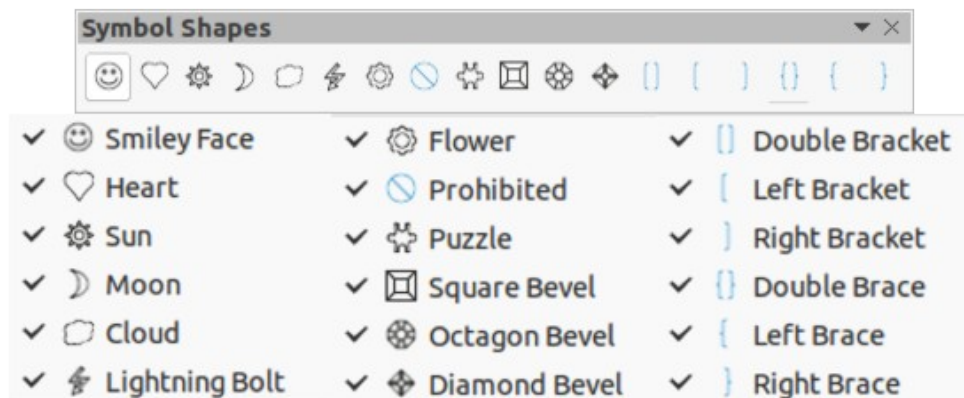


Figure 24: Symbol Shapes sub-toolbar

Block arrows

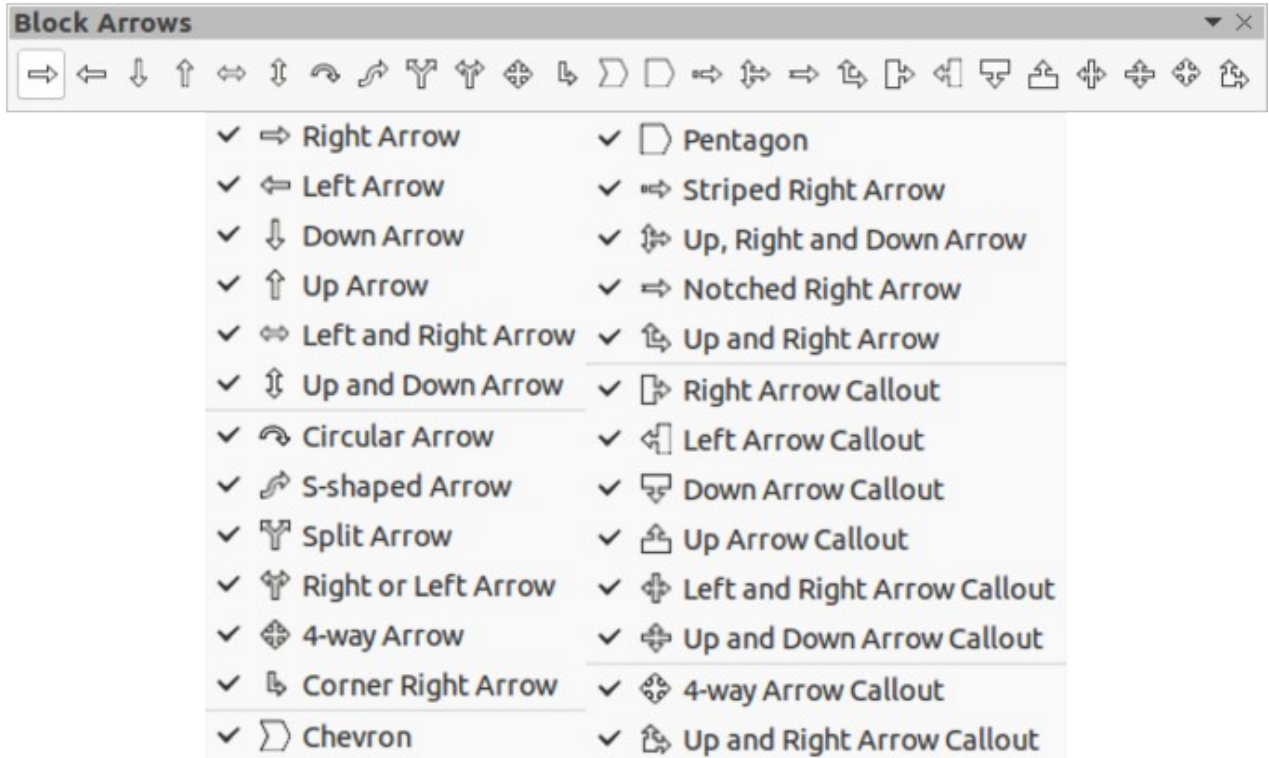


Figure 25: Block Arrows sub-toolbar

Flowchart

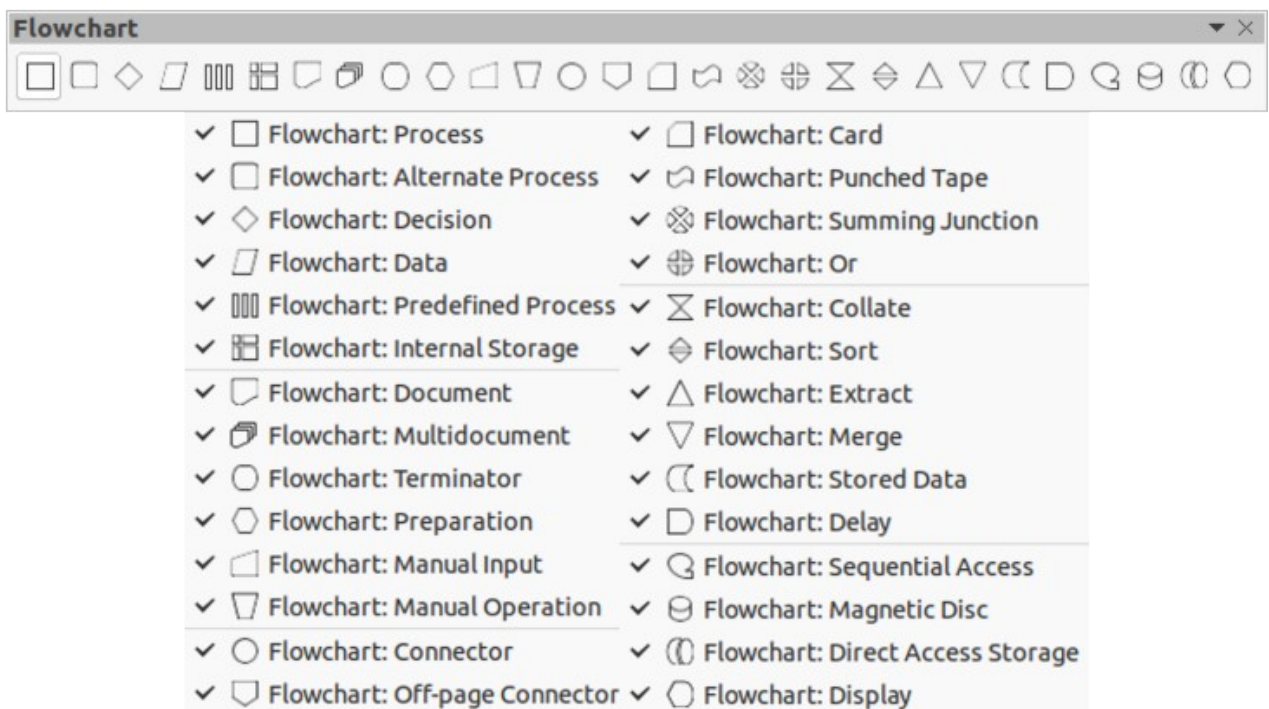


Figure 26: Flowchart sub-toolbar

Callouts

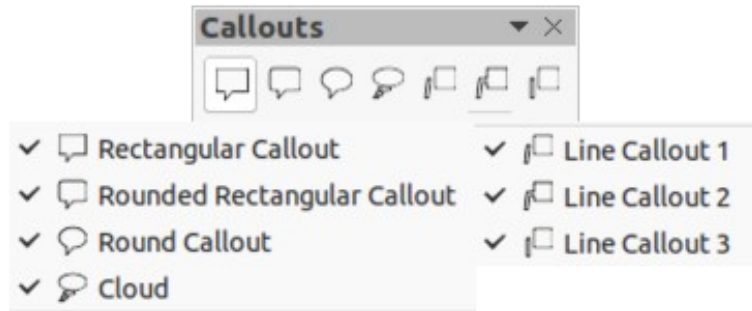


Figure 27: Callouts sub-toolbar

Stars and banners

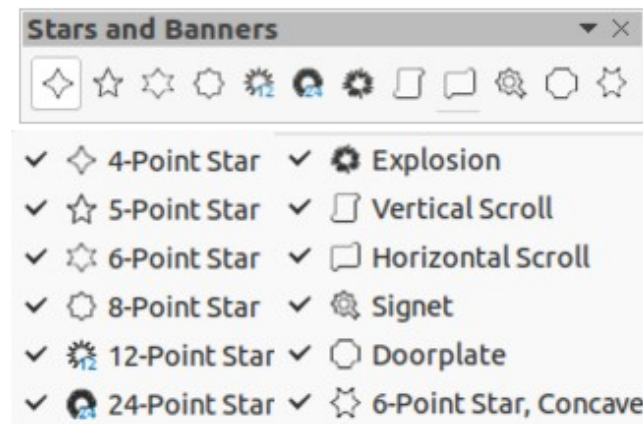


Figure 28: Stars and Banners sub-toolbar

3D objects

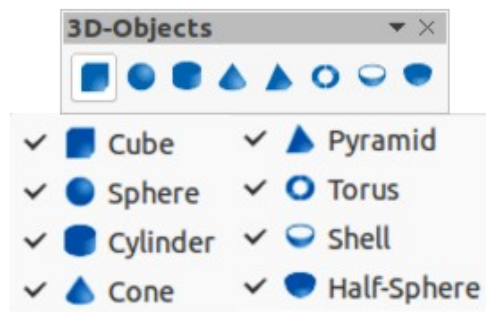


Figure 29: 3D-Objects sub-toolbar

Using text

In Draw you can add and format text in a drawing, object, or shape, as follows. For more information, see the *Draw Guide*.

- As a dynamic text frame, which is an independent Draw object that expands as more text is added within the frame.
- As text within a previously drawn object. This method integrates the text within the object and places it within the boundary rectangle that surrounds the object. This boundary rectangle is not dynamic, so care must be taken to prevent the text from extending outside the object boundaries.

Text mode

Before you can add any text to a drawing, you need to activate text mode, using one of the following methods:

- Click on **Insert Text Box** on the Standard or Drawing toolbars.
- Go to **Insert > Text Box** on the Menu bar.
- Use the keyboard shortcut **F2**.
- Double-click inside the boundary rectangle that surrounds an object on the drawing. Text inside an object is not placed into a text box.

The Text Formatting toolbar (Figure 30) automatically opens when text mode is activated, replacing the Line and Filling toolbar.

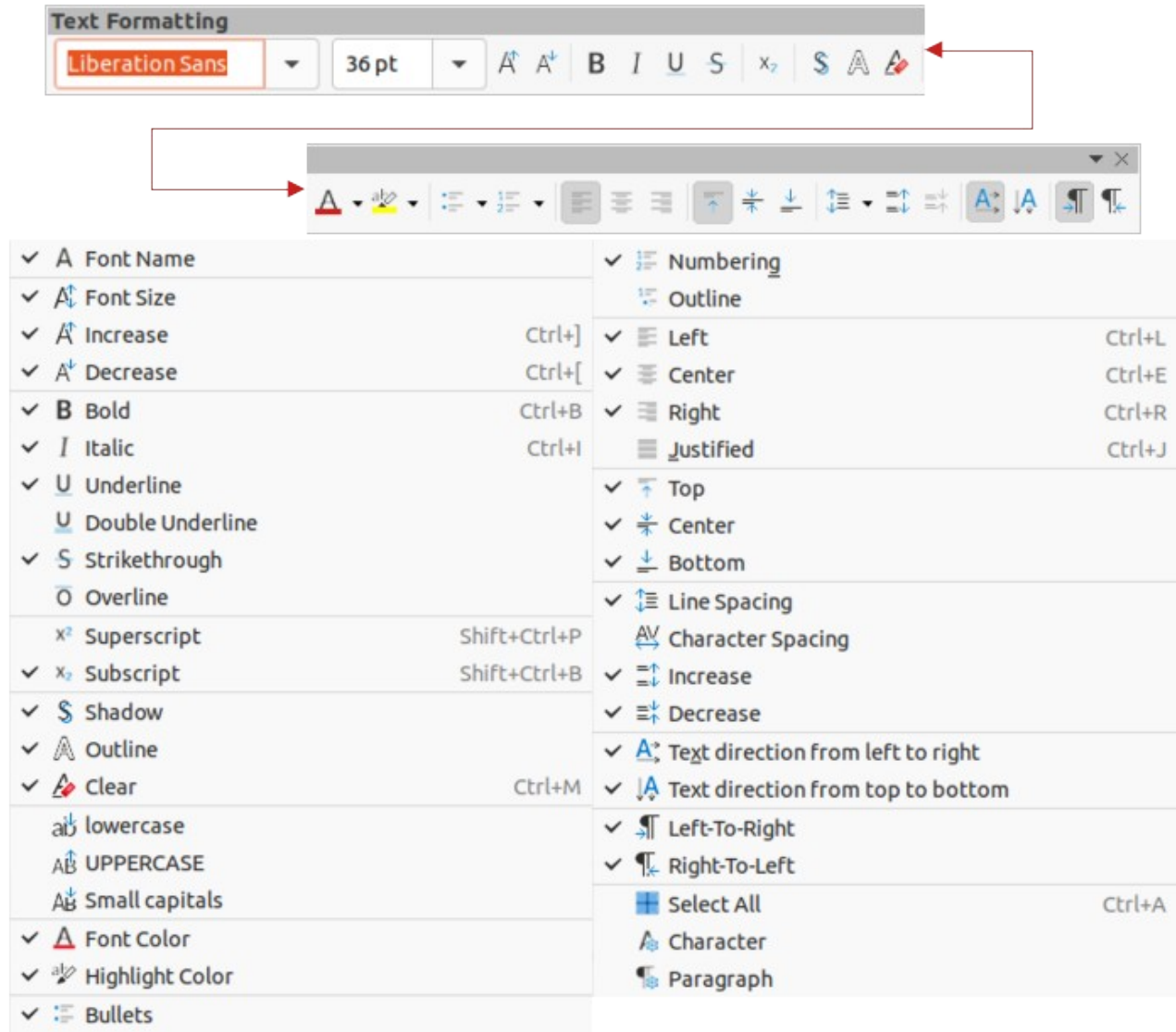


Figure 30: Text Formatting toolbar

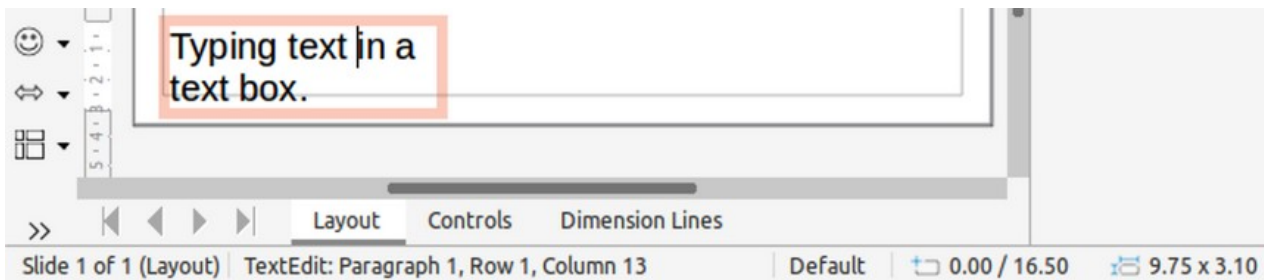


Figure 31: Text information in Status bar

Adding text

When you add text to a drawing, a text box is automatically created to contain the text.

- 1) Activate text mode as above.
- 2) Create a text box in the drawing using one of the following methods. The Status bar indicates Text Edit mode and the position of the cursor (Figure 31).
 - Click at the approximate position for the text box and a single line text box is created containing a flashing cursor. Start typing the text or paste copied text into the text box. The width of a single line text box increases as text is added.
 - Click at the approximate position for the text and drag the cursor to the approximate width required for the text box creating a multi-line text box. Start typing the text or paste copied text into the text box. As the horizontal limit of the text box is reached, the text automatically word wraps inside the text box and the text box expands vertically as it fills.
 - If necessary, create multiple lines of text in a single-line text box by pressing *Enter* to create a new paragraph, or using *Shift+Enter* to create a line break in the text.
- 3) When you have finished adding text, click outside the text box to exit text mode. The Text Formatting toolbar closes and the Line and Filling toolbar opens in its original position.
- 4) To format and/or reposition the text box, see the *Draw Guide* for more information.
- 5) If required, select the text using the various tools on the Text Formatting toolbar (Figure 30) or in the *Character*, *Paragraph*, and *Lists* panels in the Properties deck on the Sidebar (Figure 32).

Vertical text

By default, Draw is set for horizontal text only. To enable vertical text:

- 1) Go to **Tools > Options > Language Settings > Languages**.
- 2) Under **Default Languages for Documents**, select *Asian* and accept the default language shown.
- 3) Right-click in a blank area on the Standard and/or Drawing toolbar and select **Visible Buttons** in the context menu.
- 4) Select **Insert Vertical Text** in the list of available tools to enable vertical text on the Standard and/or Drawing toolbar.

Note

Formatting vertical text and vertical text boxes is the same as horizontal text and horizontal text boxes. A vertical text box expands vertically as text is added into the box. For more information on vertical text, see the *Draw Guide*.

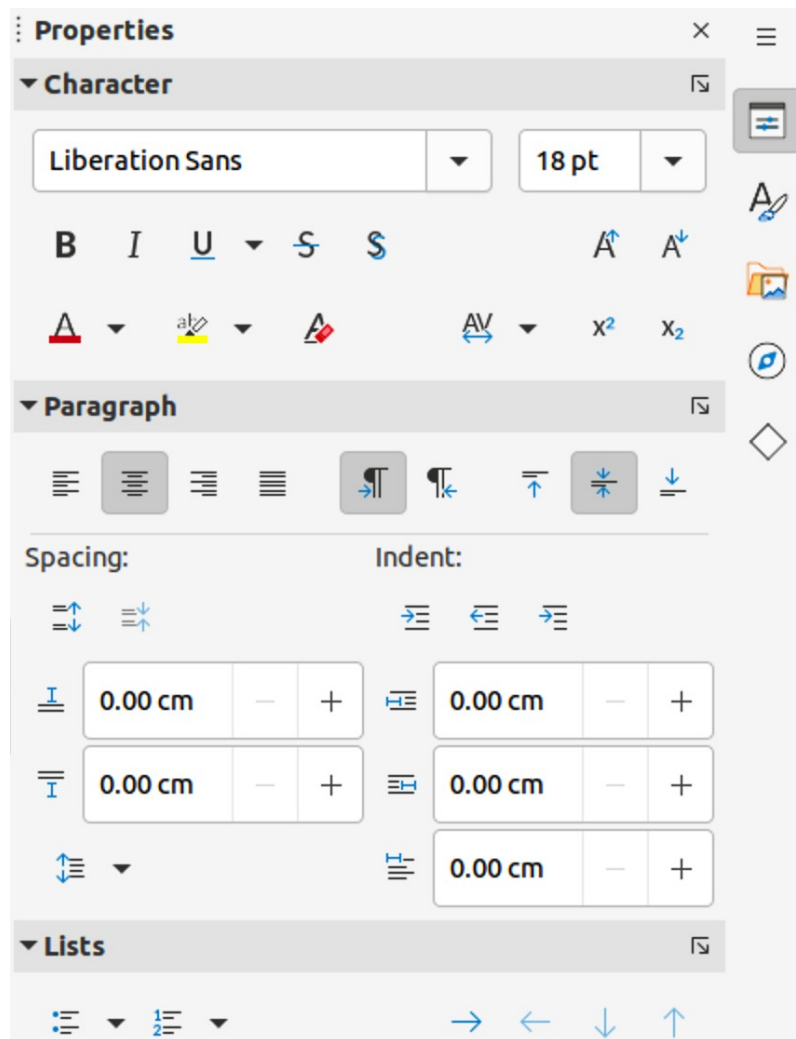


Figure 32: Character, Paragraph, and Lists panels in Properties deck on Sidebar

Selecting objects

Direct selection

The easiest way to select an object is to click directly on it. For objects that are not filled, click on the object outline to select it. To select or deselect more than one object, hold the *Shift* key down while clicking on each object.

Selection by framing

You can select several objects at once by clicking and dragging the cursor to draw a selection rectangle (also known as a marquee) around the objects. Only objects that lie entirely within this selection rectangle are selected. To select multiple objects by framing, **Select** on the Drawing toolbar must be active.

Selecting hidden objects

If objects are located behind others and not visible, they can still be selected. When you select a hidden object, its selection handles appear through the objects covering it.

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

Arranging objects

In a complex drawing, several objects may be stacked on top of one another. This stacking order can be rearranged by moving an object forward or backward using one of the following methods:

- Select an object, go to **Shape > Arrange** on the Menu bar, or right-click on the object and select **Arrange** in the drop-down menu, then choose one of the following options:
 - **Bring to Front** (*Ctrl+Shift++*)
 - **Bring Forward** (*Ctrl++*)
 - **Send Backward** (*Ctrl+-*)
 - **Send to Back** (*Ctrl+Shift+-*)
 - **In Front of Object**
 - **Behind Object**
 - **Reverse** – clicking on this option reverses the order of the selected objects.
- Select an object, then click on one of the **Arrange** tools on the Line and Filling toolbar. When you hover the cursor over a tool, its function is indicated.

Positioning and adjusting objects

When positioning or changing the size of an object, check the information area of the Status bar at the bottom of the Draw Workspace (Figure 33). From left to right, it shows what object is selected, its position on the drawing in X/Y coordinates, and the dimensions of the object. The measurement units are those selected in **Tools > Options > LibreOffice Draw > General**.

For more information on positioning and adjusting objects, see the *Draw Guide*.

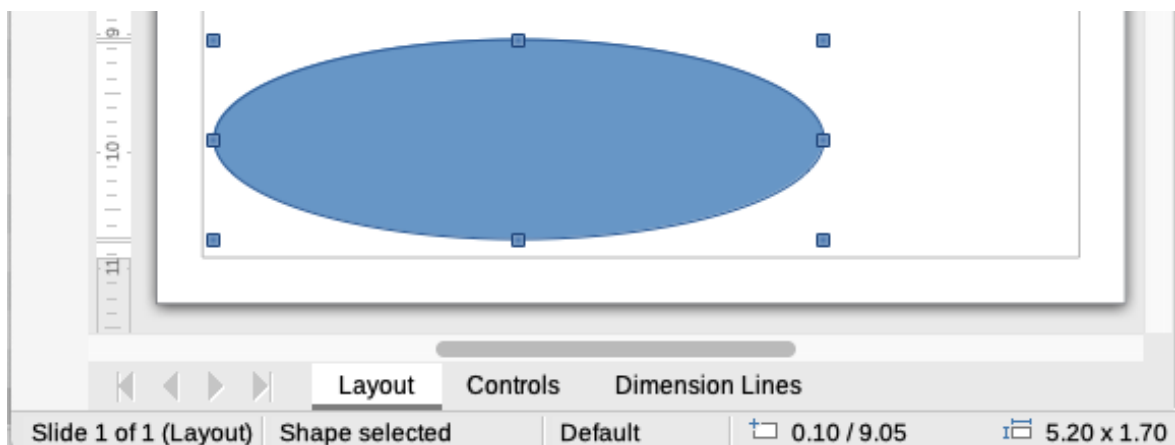


Figure 33: Information on left end of Status Bar when working with objects

Using zoom

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

Moving objects

To move an object (or a group of objects), select it and then click within the object borders and hold down the left mouse button while dragging the mouse. During movement, a ghost image of the object appears to help with repositioning (Figure 34). To locate the object at its new position, release the mouse button.



Figure 34: Moving objects

Adjusting object size

To change the size of a selected object (or a group of selected objects), move the mouse cursor to one of the selection handles. The cursor changes shape to indicate the direction of movement for that selection handle. As the object size changes, a ghosted outline of the object appears (Figure 35). When the desired size of the object is reached, release the mouse button.

The results depend on which selection handle you use. To resize an object along one axis, use a side, top, or bottom handle. To resize along both axes, use a corner handle.



Figure 35: Adjusting object size

✓ Note

If you press and hold the *Shift* key while resizing an object, the change in size will be carried out symmetrically with respect to the object width and height so that the aspect ratio of the object remains the same. This *Shift* key behavior works on all selection handles.

Rotating or slanting objects

To rotate or slant an object (or a group of objects), select it and switch to rotation mode using one of the following methods:

- Right-click on the object and select **Transformations > Rotate** in the context menu.
- Click on the small triangle ▼ on the right of the tool icon for **Transformations** on the Standard or Line & Filling toolbar and select **Rotate**.

The selection handles change shape and color and a center of rotation appears in the center of the object. As the cursor is moved over the handles, the cursor changes shape to indicate the type of movement.

Rotation

- 1) Click and hold the mouse button over a corner selection handle, then move the cursor to rotate the object. A ghost image of the object being rotated appears and the current angle of rotation is shown in the Status bar (Figure 36).
- 2) When the object is at the desired rotation angle, release the mouse button.
- 3) To change the angle of rotation, click on the rotation point and drag it to another position. This position can be outside the object.

✓ Note

Press the *Shift* key while rotating or slanting an object and the movement is restricted to 15°.

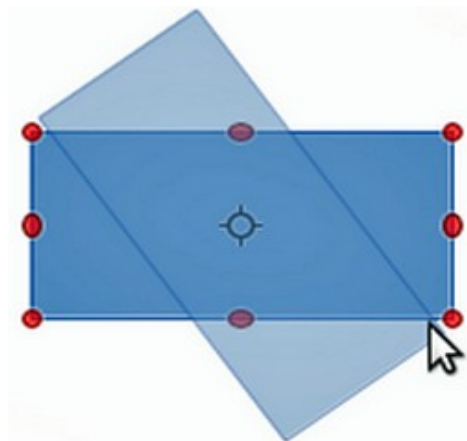


Figure 36: Rotating an object

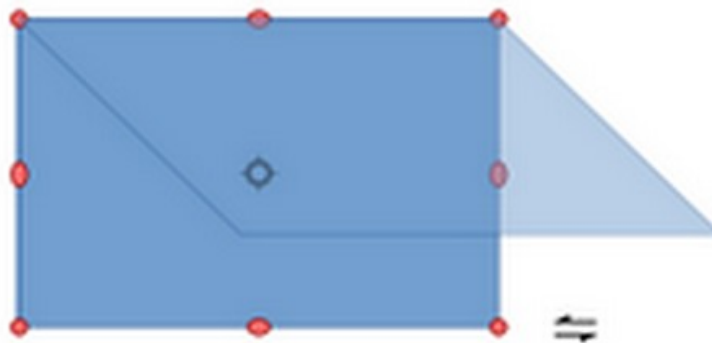


Figure 37: Slanting an object

Slanting

- 1) Click and hold the mouse button over a selection handle at the top, bottom, left side, or right side of an object.
- 2) Drag the selection handle to slant the object. A ghost image of the object being slanted appears (Figure 37) and the current slant angle is shown in the Status bar. The axis used for slanting an object is fixed to the edge of the object directly opposite the selection handle being used to slant the object.
- 3) When the object is at the desired slant angle, release the mouse button.

Flipping objects

Select an object so that the selection handles are displayed and flip the object vertically or horizontally using one of the following methods:

- Right-click on the object and select **Flip > Vertically** or **Horizontally** in the context menu.
- Go to **Shape > Flip > Vertically** or **Horizontally** on the Menu bar.
- Click on **Vertically** or **Horizontally** tool on the Line and Filling toolbar.
- Use **Flip Vertically** or **Flip Horizontally** tool in the *Position and Size* section on the Properties deck of the Sidebar.

However, the **Flip** tool on the Transformations toolbar (Figure 38) provides greater control over the flipping process. Use the **Flip** tool to change the position and angle that the object flips over. See the *Draw Guide* for more information.

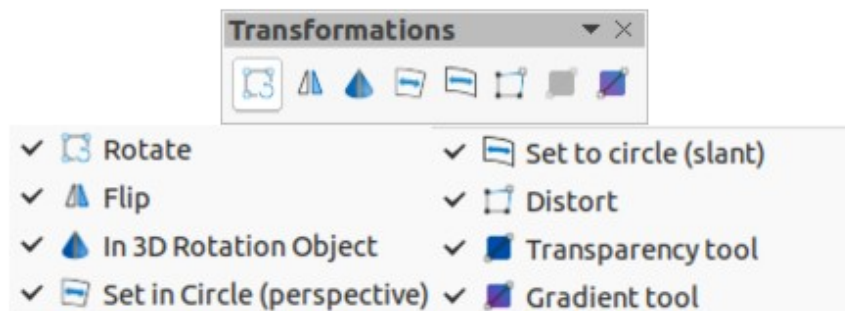


Figure 38: Transformations toolbar

Object distortion

Three tools on the Transformations toolbar (Figure 38) let you drag the corners and edges of an object to distort an object.

- **Distort** – distorts an object in perspective.
- **Set in Circle (perspective)** – creates a pseudo 3D effect.
- **Set to Circle (slant)** – creates a pseudo 3D effect. Despite the (slant) in the name of this tool, it operates differently from the slanting created by rotation.

In all three cases, you are asked if you want to convert the object into a curve. This is a necessary first step, so click **Yes**. Then you can move the object handles to produce the desired effect. See the *Draw Guide* for more information on how to distort an object.

Dynamic gradients

Transparency gradients can be controlled the same as color gradients. Both types of gradient can be used together. With a transparency gradient, the direction and degree of the object fill color changes from opaque to transparent. In a color gradient, the fill changes from one color to another, but the degree of transparency remains the same. An example of a dynamic gradient is shown in Figure 39.

Two tools on the Transformations toolbar are used to dynamically control transparency and color gradients – **Interactive Transparency** and **Interactive Gradient**. See the *Draw Guide* for more information on how to create transparencies and gradients in an object.

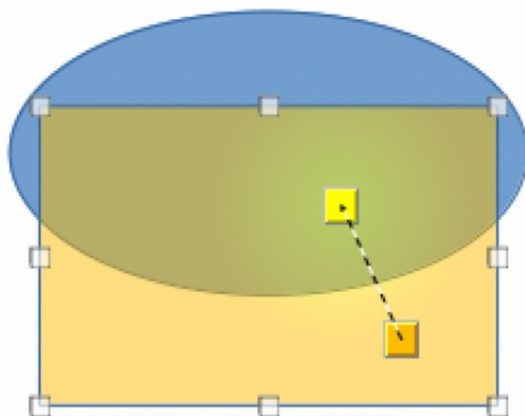


Figure 39: Dynamic gradient example

Duplication

Duplication makes copies of an object while applying a set of changes such as color or rotation to the duplicates that are created. An example of duplication is shown in Figure 40. For more information on duplication, see the *Draw Guide*.

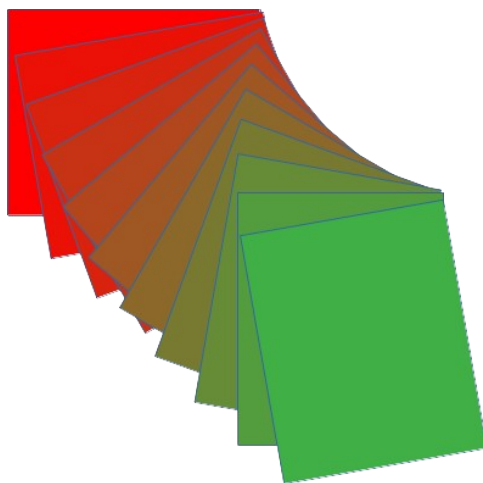


Figure 40: Duplication example

- 1) Click on an object or group of objects and open the Duplicate dialog (Figure 41) using one of the following methods:
 - Go to **Edit > Duplicate** on the Menu bar.
 - Go to **Shape > Duplicate** on the Menu bar.
 - Use the keyboard shortcut *Shift+F3*.
- 2) Select the required number of copies, placement, enlargement, and colors.

- 3) Click **OK** to duplicate the object and close the Duplicate dialog.

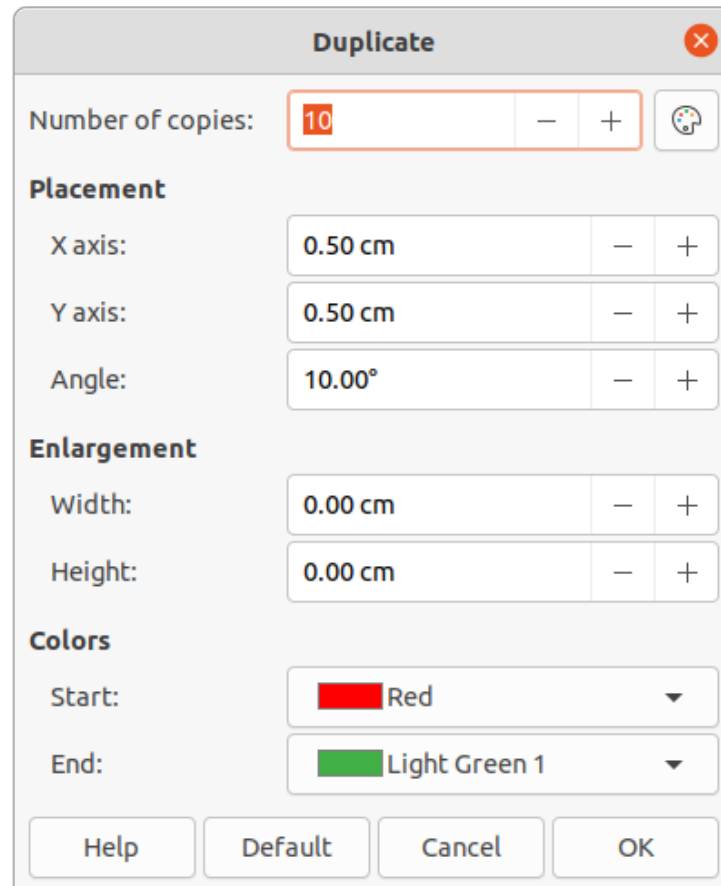


Figure 41: Duplicate dialog

Cross-fading

Cross-fading transforms one object shape to another object shape. Cross-fading only works when two objects are selected.

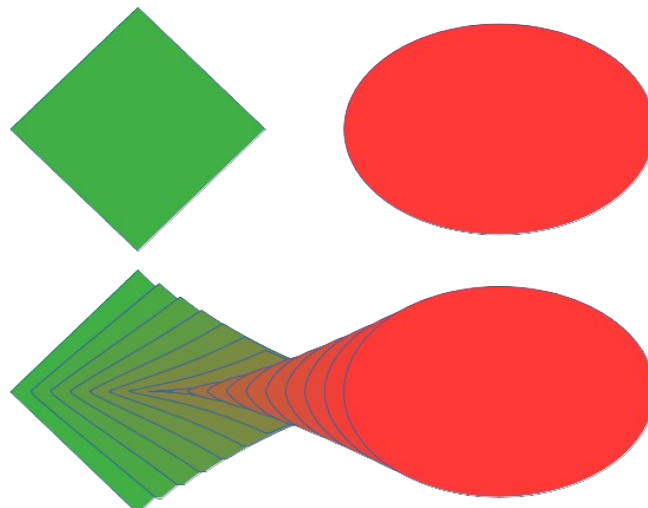


Figure 42: Cross-fading example of two objects

- 1) Select two differently shaped objects and go to **Shape > Cross-fading** on the Menu bar to open the Cross-fading dialog (Figure 43).
- 2) In *Increments* enter the number of shapes between the two objects.

- 3) Select *Cross-fading attributes* to apply a gradual change of line and fill properties between the two objects.
- 4) Select *Same orientation* to apply a smooth transition between the two objects.
- 5) Click **OK** to carry out the cross-fading and close the Cross-fading dialog.

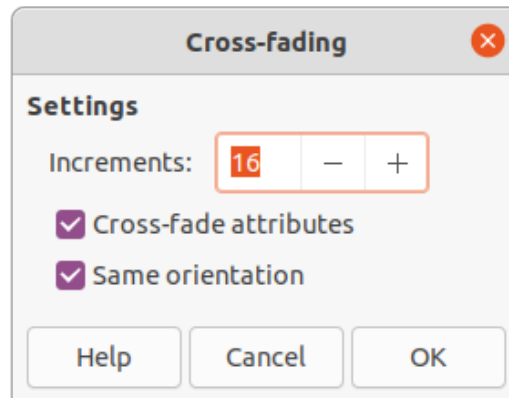


Figure 43: Cross-fading dialog

The result is a new group of objects with the first object selected as the start object and the second object selected as the end object. For example, when the options in the Cross-fading dialog are applied to a diamond and an ellipse, the cross-fading produces the result shown in Figure 42.

Grouping and combining multiple objects

Using Draw, a group of objects can be grouped together allowing multiple objects to be treated as one object, or combined together to create a new shape, as shown by the example in Figure 44. For more information on grouping and combining objects, see the *Draw Guide*.

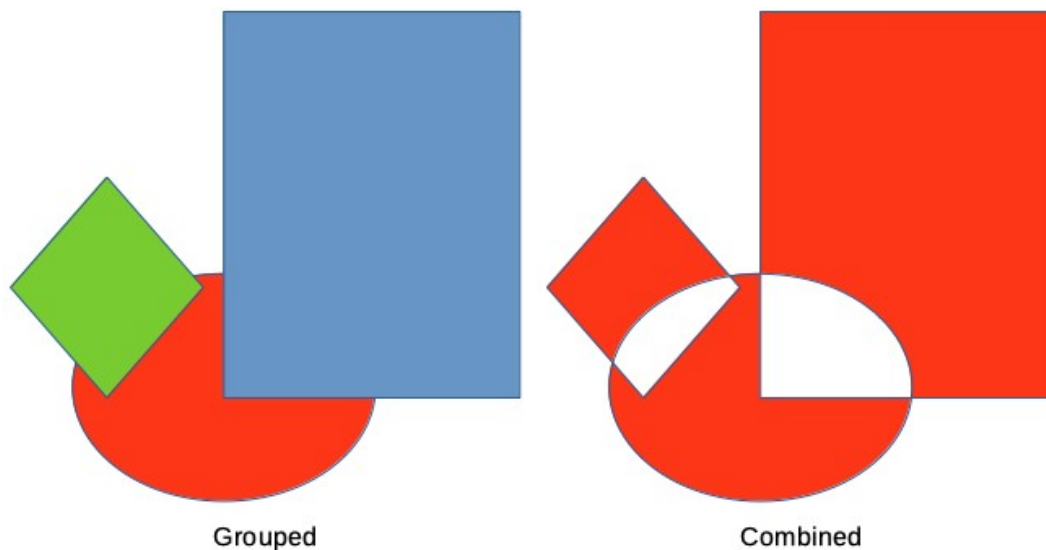


Figure 44: Example of grouped and combined objects

Grouping

Grouping of objects is similar to putting objects into a container. The objects can be moved as a group and global changes applied to the objects within the group. A group can always be undone (ungroup). Objects that make up a group can always be manipulated separately and retain their own individual properties.

Temporary grouping

A temporary grouping is when several objects are selected using one of the following methods:

- While holding down the *Shift* key, click on each object with the cursor to select it for the temporary group.
- Using the mouse, click and drag a rectangle (also known as a marquee) around the objects for the temporary group.

Any changes to object parameters carried out are applied to all of the objects within the temporary group. For example, rotating a temporary group of objects in its entirety.

To cancel a temporary grouping of objects, click outside of the selection handles displayed around the objects.

Permanent grouping

A permanent grouping of objects can be created after selecting objects using one of the following methods:

- Go to **Shape > Group > Group** on the Menu bar.
- Right-click on the selected objects and select **Group** in the context menu.
- Use the keyboard shortcut *Ctrl+Shift+G*.

When deselected, the objects remain grouped together. Any editing operations carried out on the group are applied to all objects within the group. If one object in the group is clicked, the whole group is selected.

Editing within groups

You can edit an individual within a group without ungrouping or breaking the group. After selecting the group, use one of the following methods to enter the group:

- Go to **Shape > Group > Enter Group** on the Menu bar.
- Right-click on the selected group and select **Enter Group** in the context menu.
- Use the keyboard shortcut *F3*.
- Double-click on the selected group.

When you have finished editing an individual object within a group, use one of the following methods to exit the group:

- Go to **Shape > Group > Exit Group** on the Menu bar.
- Right-click and select **Exit Group** in the context menu.
- Use the keyboard shortcut *Shift+F3*.

Ungrouping

To ungroup or break apart a permanent group of objects, use one of the following methods after selecting the group:

- Go to **Shape > Group > Ungroup** on the Menu bar.
- Right-click and select **Ungroup** in the context menu.
- Use the keyboard shortcut *Ctrl+Alt+Shift+G*.

Nesting groups

You can create a group of groups, more commonly known as nested groups. When nested groups are created, Draw retains the individual group hierarchy and remembers the order in which groups were selected. That is, the last individual group selected will be on top of all the other groups within a nested group. Ungrouping and entering a nested group work in the same way as for individual groups.

Combining objects

Combining is a permanent merging of objects, creating a new object. The original objects are no longer available as individual entities and cannot be edited as individual objects. Any editing of a combined object affects all the objects that were used when combination was carried out. For more information on combining objects, see the *Draw Guide*.

After selecting the objects for combining, use one of the following methods to create a new object. An example of combining objects is shown in Figure 44 on page 32.

- Go to **Shape > Combine** on the Menu bar.
- Right-click on the objects and select **Shapes > Combine** in the context menu.
- Use the keyboard shortcut *Ctrl+Shift+K*.

Merging, subtracting, and intersection

After selecting several objects, the **Merge**, **Subtract**, and **Intersect** functions become available. These functions are similar to combining objects, but allow the creation of a differently shaped object from the selected objects. The shape of the object depends on which function used. See the *Draw Guide* for more information on how to use these functions.

Arranging, aligning, and distributing objects

In Draw, selected objects can be arranged, aligned, and distributed in relation to each other:

- Arrange the position of an object by moving it either forward or backward in relation to the order of objects.
- Align objects with respect to each other using **Left**, **Centered**, or **Right** for horizontal alignment and **Top**, **Center**, or **Bottom** for vertical alignment.
- Distribute objects so that the space between each of the objects is the same.

See the *Draw Guide* for more information on arranging and aligning objects.

Inserting and exporting images

Inserting

Draw contains a number of functions for editing images (also called pictures, raster graphics, or bitmaps). These functions include the import and export of images, and conversion from one image format to another. For more information on working with images, see Chapter 11, Images and Graphics, in this guide and the *Draw Guide*.

Draw includes a large range of filters so that it can read and display several image file formats. It also includes several tools for working with images, but does not have the same functionality as specialized programs like GIMP or Adobe Photoshop.

Images can be added from several sources:

- Directly from a scanner (**Insert > Media > Scan** on the Menu bar).
- Created by another program, for example photographs from a digital camera (**Insert > Image** on the Menu bar).
- The LibreOffice Gallery; see Chapter 11, Images and Graphics.

Exporting

Draw saves images as drawings in the Open Document Format (ODG). To save an image or the entire Draw file in another format, go to **File > Export** on the Menu bar and select a format from the drop-down list. The image formats that Draw can export in and save to are listed in Appendix B, Open Source, Open Standards, OpenDocument in this guide.

Draw files can also be exported in HTML, XHTML, or PDF format. For more information, see Chapter 10, Printing, Exporting, Emailing, and Signing.

HTML export uses a conversion wizard that creates as many web pages as there are pages in a Draw document. You can optionally choose to display drawing pages in frames with a navigator and set an index page. See Chapter 12, Creating HTML Files.

Working with 3D objects

Although Draw does not match the functionality of specialized drawing or image editing programs, it is capable of producing and editing very good 3D drawings. For more information, see the *Draw Guide*.

You can create a 3D object in Draw using one of the following methods:

- Select a 3D shape in the *3D Objects* section in the Shapes deck on the Sidebar.
- Right-click on a 2D object and select **Convert > To 3D** or **To 3D Rotation Object** in the context menu.
- Right-click on a 2D object and select **Format > 3D Effects** on the Menu bar.

Working with layers

Using layers when creating complex drawings makes a drawing easier to navigate and edit. Placing a simpler drawing that is part of a complex drawing into its own layer makes editing easier. Any area of a layer that does not contain a drawing object is transparent and does not obscure any part of a complex drawing. Any number of layers can be added to a drawing. For more information on layers, see the *Draw Guide*.

A drawing in LibreOffice contains three default layers that cannot be deleted or renamed:

- **Layout** – is the default Workspace where objects are normally placed when a drawing is created.
- **Controls** – used for form controls that have been assigned an action. Objects on this layer are always in front of objects on other layers.
- **Dimension Lines** – is where the dimension lines are drawn. By switching the layer to show or hide, dimension lines can be switched on or off.

A layer can be set to one or all of the following attributes:

- Visible or hidden.
- Printable or not printable.
- Locked or unlocked.

To quickly toggle the attributes for a selected layer, use the following keyboard shortcuts:

- *Shift+click* – toggle between a layer being visible or hidden.
- *Ctrl+click* – toggle between a layer being locked or unlocked.
- *Ctrl+Shift+click* – toggle between a layer being printed or not printed.

Adding layers

To add a layer to a drawing:

- 1) Use one of the following methods to open the Insert Layer dialog (Figure 45):
 - Go to **Insert > Layer** on the Menu bar.
 - Right-click on the layer tabs at the bottom of the Workspace and select **Insert Layer** in the context menu.
- 2) Enter a meaningful **Name**, **Title**, and **Description** for the new layer in the text boxes.
- 3) Select **Visible** if the layer is to be visible in a drawing. When **Visible** is not selected, the layer is hidden and its name in the layer tab changes color to blue.
- 4) Select **Printable** if the layer is to be printed when a drawing is printed. Not printing is useful if a draft layer is required for guides or annotations that are used in making a drawing, but you do not want it to appear in the final output. The name of a layer is underlined in the layer tab bar when the **Printable** option is turned off.
- 5) Select **Locked** to prevent any objects on this layer from deletion, editing, or moving. No additional objects can be added to a locked layer. Locking a layer is useful, for example, when a base plan is to be protected while adding a new layer with other details. The name of a locked layer is written in *Italics* in the layer tab bar.
- 6) Click **OK** to create the new layer and close the Insert Layer dialog. A new layer automatically becomes active when added to a drawing.

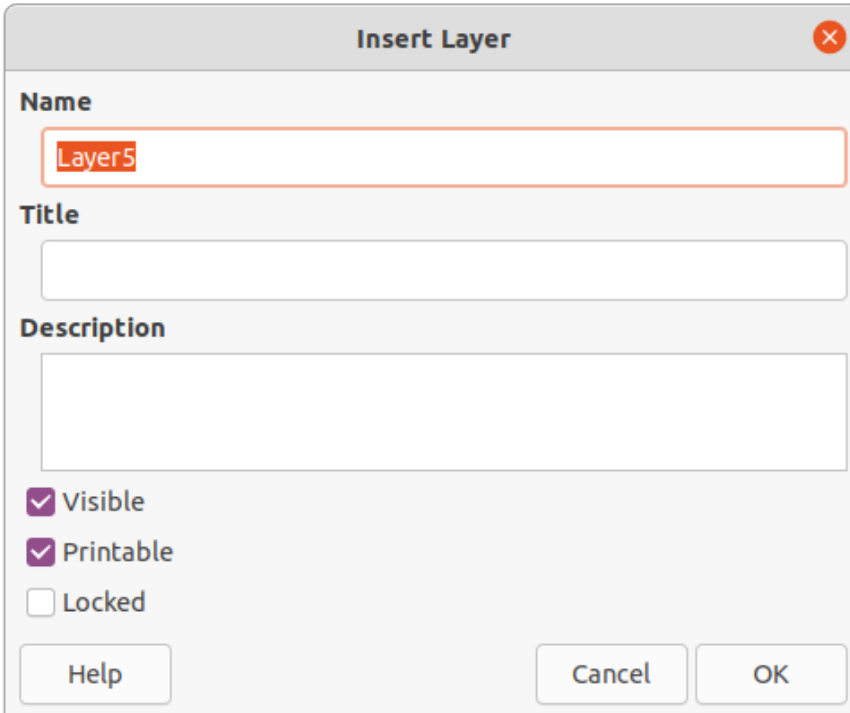


Figure 45: Insert Layer dialog

✓ Note

Layers are added to the drawing in the order that they were inserted. The layer order cannot be changed.

Modifying layers

- 1) To modify a layer, use one of the following methods to open the Modify Layers dialog, which is similar in layout and options to the Insert Layers dialog.
 - Right-click on the name tab of the layer and select **Modify Layer** in the context menu.
 - Double-click on the layer tab.
 - Go to **Format > Layer** on the Menu bar.
- 2) Make the required changes to the layer, then click **OK** to save the changes and close the Modify Layers dialog.

Choosing colors

You can choose colors using a color palette, the Area and Line panels on the Properties deck of the Sidebar, and tools on the Line and Filling and Drawing toolbars, as described below.

✓ Note

For a more detailed description of the options available for color palettes and custom colors, as well as more information on the difference between the CMYK and RGB color schemes, refer to the *Draw Guide*.

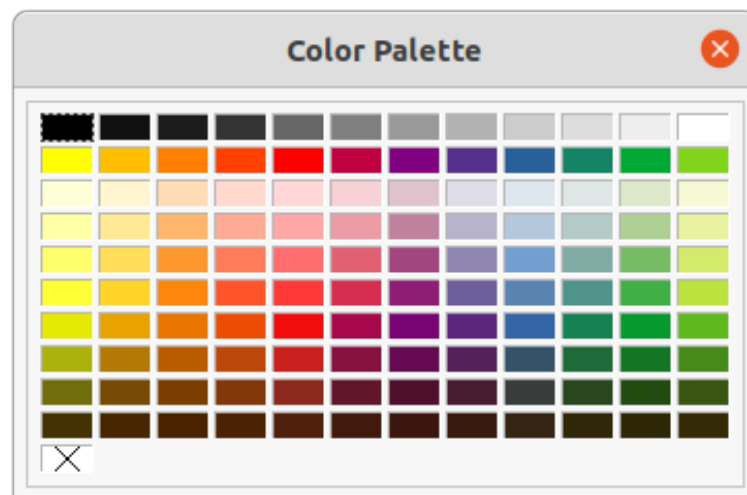


Figure 46: Color Palette (Color Bar)

Color palette

To display the Color Palette that is currently in use (Figure 46), go to **View > Color Bar** on the Menu bar. To close the Color Palette, go to **View** on the Menu bar and deselect **Color Bar**.

Using the Color Palette, you can rapidly choose the color of the area or background, and lines of selected objects in your drawing.

- Left-click on a color to change the color of the area or background of a selected object.
- Right-click on a color to change the color of the lines in a selected object.
- Left-click or right-click on the box with the X at the bottom left of the Color Palette to select no color for the area or lines of a selected object.

Sidebar color

In the *Area* and *Line* panels in the Properties deck on the Sidebar (Figure 47), you can change the color of an area or line of a selected object.

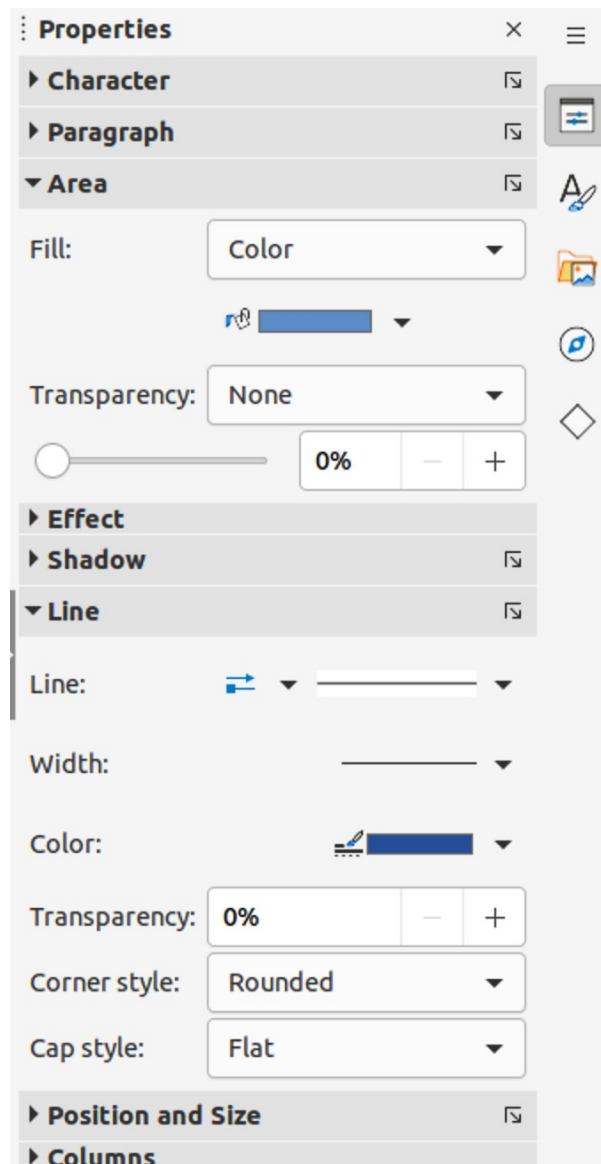


Figure 47: Area and Line panels in Properties deck on Sidebar

- 1) Select an object in a drawing.
- 2) Click on **Properties** on the Sidebar. In the Properties deck, open the *Area* and/or *Line* panels by clicking on the small triangle ▼ on the panel title bar.
- 3) Change the color of an area in the *Area* panel as follows:
 - a) Select **Color** in the *Fill* drop-down list.
 - b) Click on the down-pointing symbol ▼ next to the *Fill Color* box to open the color palette.
 - c) Click on a color to change the area color.
 - d) To change the color palette, click on the down-pointing symbol ▼ at the top of the color palette and select a color palette in the drop-down list.

- 4) Change the color of a line in the *Line* panel as follows:
 - a) Click on the down-pointing symbol ▼ next to the *Line Color* box to open the color palette.
 - b) Click on a color to change the line color.
 - c) To change the color palette, click on the down-pointing symbol ▼ at the top of the color palette and select a color palette in the drop-down list.

Toolbar color change

The Line and Filling, and Drawing toolbars have the same two tools that can be used to change the color of an area (fill) or line – **Fill Color** and **Line Color**. These two tools are used in a similar way as changing colors using the *Area* and *Line* panels on the Properties deck of the Sidebar, described above.

Adding comments to a drawing

You can add comments to a drawing using a similar process to the one used in Writer and Calc. For more about adding, navigating, and replying to comments, see Chapter 4, Getting Started with Writer.

Before using comments, make sure that your name and initials are entered into **Tools > Options > LibreOffice > User Data**. The name and initials then appear in the comment marker and in the Author field of the comment.

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

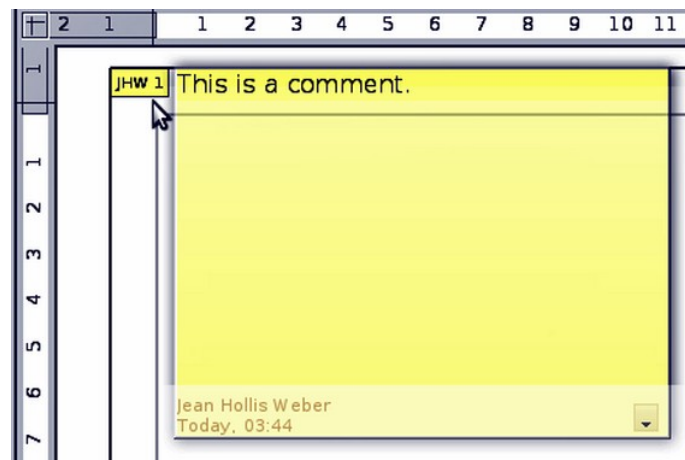


Figure 48: Inserting a comment

- 1) Go to **View > Comments** on the Menu bar to show or hide the comment markers.
- 2) Go to **Insert > Comment** on the Menu bar. A small box containing your initials appears in the upper left-hand corner of the drawing with a larger text box beside it (Figure 48). Draw automatically adds your name and the date at the bottom of this text box.
- 3) Type or paste your comment into the text box.
- 4) If necessary, click and drag the small comment markers to move the comment to a different position on the drawing. Normally, the comment marker is placed on or near the object you refer to in the comment.
- 5) Right-click on the comment and choose an option in the context menu to delete the current comment, all the comments from the same author, or all the comments in the document.