



LibreOffice
Community



Draw Guide 7.3

Chapter 2, Drawing Basic Shapes

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Introduction

LibreOffice Draw can create 2D and 3D objects. This chapter shows how to draw simple 2D objects. The following chapters describe how to work with and edit such objects. For more information on 3D objects, see Chapter 7, Working with 3D Objects.

All shapes, such as lines, rectangles, or more complicated shapes, are called objects. This is common notation in vector drawing software.

The most commonly used drawing tools are found on the Drawing toolbar (Figure 1) and this toolbar is normally docked on the left side of the main Draw window. If the toolbar is not visible, go to **View > Toolbars** on the Menu bar and select **Drawing** from the available options.

As with all the components of LibreOffice, the Drawing toolbar can be unlocked and placed the Draw workspace as a floating toolbar. Toolbars can be configured by adding, moving, hiding, or deleting tools. See Chapter 1, Introducing Draw for more information.

When a shape is drawn, an object selected for editing, or text added to the drawing, the information field in the Status Bar (Figure 2) changes to reflect the action taken or in progress. See Chapter 1, Introducing Draw for more information on the Status Bar.



Figure 1: Drawing toolbar

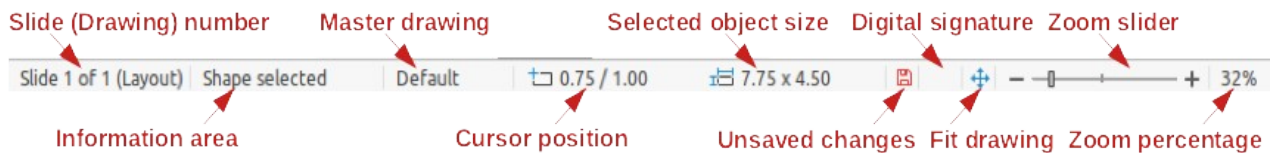


Figure 2: Status Bar

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 1. 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 16 for information on the available shapes.

Note

When a basic shape is drawn, or one 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.

Straight lines

Creating straight lines

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

- 1) Use one of the following options to draw a straight line:
 - Click **Insert Line** on the Drawing toolbar.

- Click on the triangle ▼ next to **Lines and Arrows** on the Drawing toolbar 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 3).
- 2) Place the cursor at the starting point on the drawing, then click and drag the cursor to draw a straight line.
 - 3) Release when the end point is reached and a straight line is created.

✓ **Note**

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 selection handle at the end point, as shown in Figure 4.

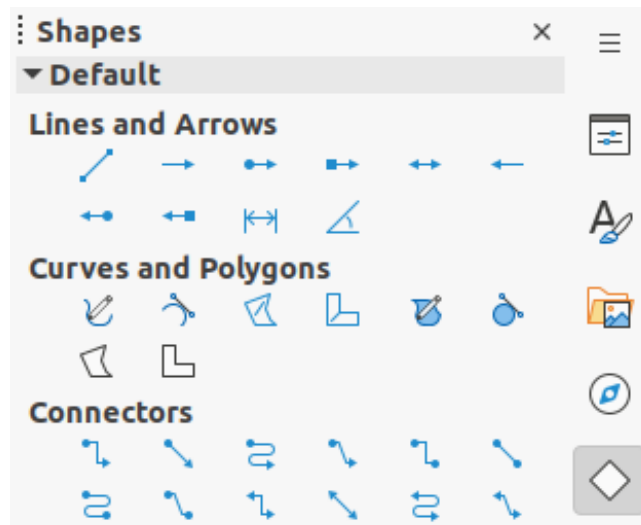


Figure 3: Lines and Arrows panel in Shapes deck on sidebar

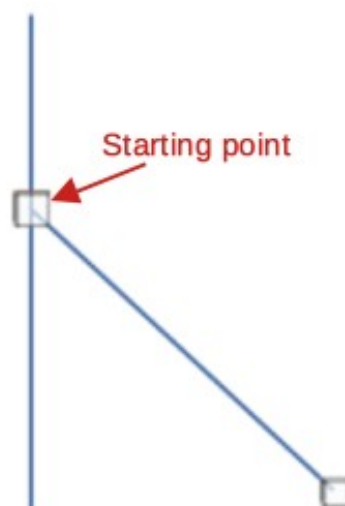


Figure 4: Line starting point

✓ Note

To snap the end of a straight line to the nearest grid point, keep the *Ctrl* (macOS ⌘) key pressed while drawing the straight line. This is the default behaviour of the *Ctrl* (macOS ⌘) key. If the option **Snap to Grid** on **View > Snap Guides** on the Menu bar has been selected, pressing the *Ctrl* (macOS ⌘) key while drawing a straight line temporarily deactivates the **Snap to Grid** option.

✓ Note

To restrict the drawing angle of a straight line to a multiple of 45 degrees (0, 45, 90, 135, and so on), keep the *Shift* key pressed while drawing a straight line. 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, pressing the *Shift* key temporarily deactivates this restriction.

✓ Note

To draw a straight line symmetrically outwards in both directions from the start point, keep the *Alt* (macOS ⌥) key pressed while drawing the straight line. This draws straight lines from the middle of the straight line.

Formatting straight lines

When a straight line is drawn, it uses default attributes. To change any of these attributes to the drawing requirements, select the straight line by clicking on it to display the selection handles and use one of the following methods to format the selected straight line:

- Open the **Line** panel in the Properties deck on the Sidebar (Figure 5).
- Use the tools **Line Style**, **Line Width**, and **Line Color** on the Line and Filling toolbar (Figure 6).
- Go to **Format > Line** on the Menu bar to open the Line dialog (Figure 7).
- Right-click and select **Line** from the submenu to open the Line dialog.

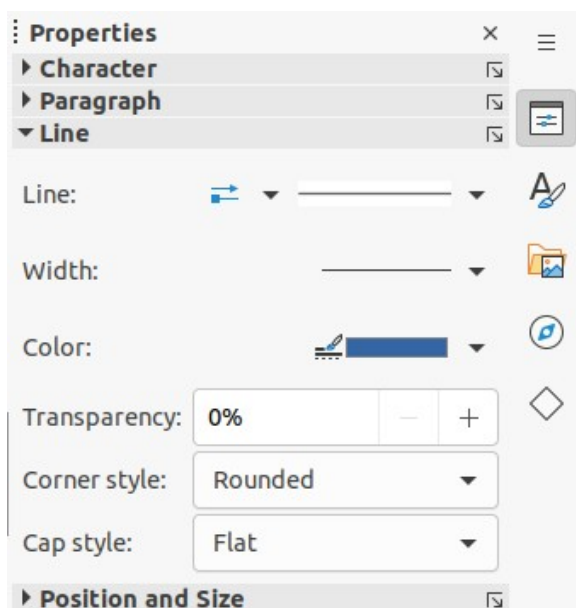


Figure 5: Line panel in Properties deck on Sidebar

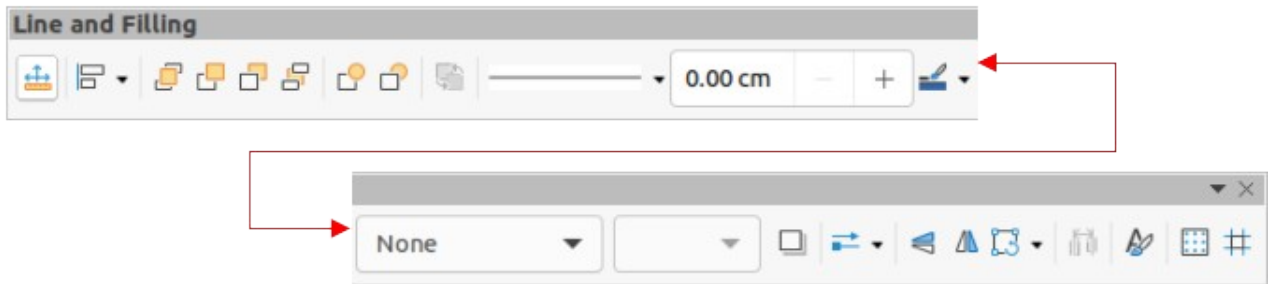


Figure 6: Line and Filling toolbar

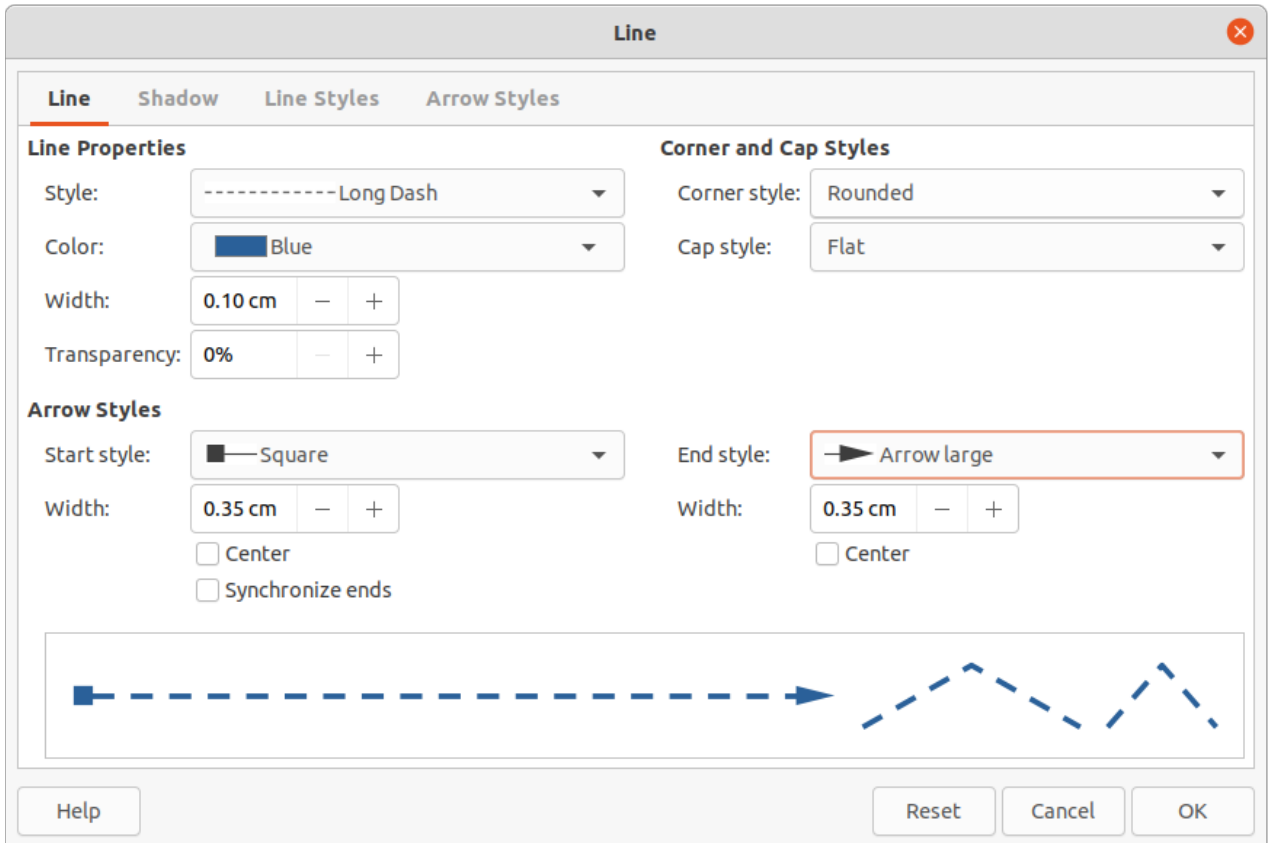


Figure 7: Line dialog - Line page

Lines and arrows

Draw classifies both lines and arrows as lines and are drawn like straight lines (for more information, see “Straight lines” on page 4). Hovering the cursor over each tool in the Lines and Arrows sub-toolbar, 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.

Creating lines or arrows

The tools available on the Lines and Arrows sub-toolbar (Figure 8) for creating lines or arrows are, from left to right:

Insert Line	Line with Arrows	Dimension Line
Line Ends with Arrow	Line Starts with Arrow	Line (45°)
Line with Circle/Arrow	Line with Arrow/Circle	
Line with Square/Arrow	Line with Arrow/Square	

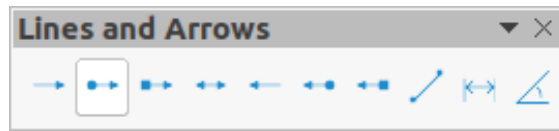


Figure 8: Lines and Arrows sub-toolbar

Note

The tool icon for the last tool used is already selected on the Drawing toolbar. This makes it easier to use the same tool again.

- 1) Use one of the following methods to draw a line or arrow:
 - Click on the triangle ▼ next to **Lines and Arrows** on the Drawing toolbar and select the type of line or arrow required on the Lines and Arrows sub-toolbar (Figure 8).
 - Select the type of line or arrow required in the **Lines and Arrows** panel of the Shapes deck on the Sidebar (Figure 3 on page 5).
- 2) Place the cursor at the starting point for the line or arrow, then click and drag the cursor. The arrowhead(s) is drawn at the end(s) of the line when the line is completed.
- 3) For more information on how to draw lines and arrows, see “Straight lines” on page 4.

Formatting line or arrow

After drawing a line or arrow, make sure it is selected and format the line or arrow to the drawing requirements using one of the following methods:

- 1) To format the line used for an arrow, see “Straight lines” on page 4 for more information.
- 2) To format an arrow using the same arrowhead style for both ends of the arrow:
 - a) Select the arrow so that the selection handles are displayed.

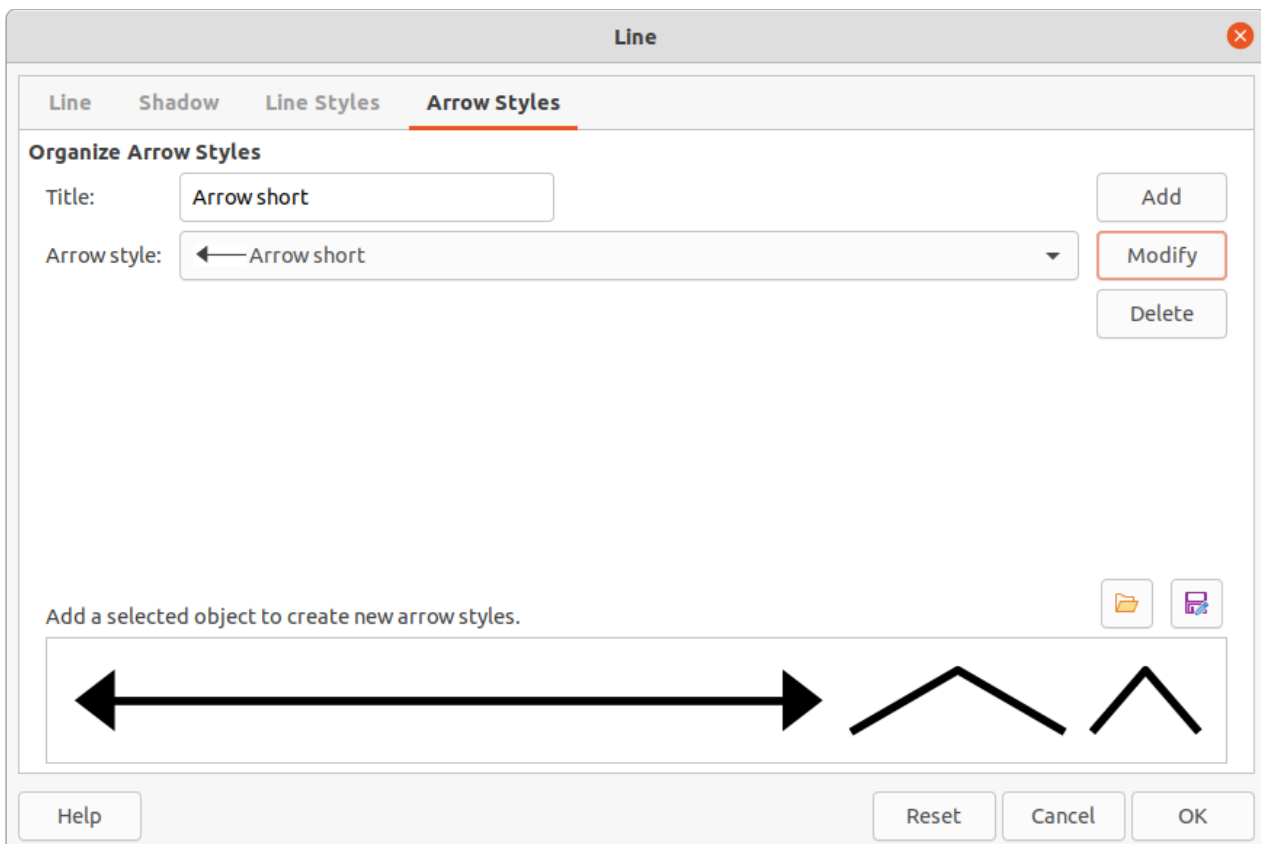


Figure 9: Line dialog - Arrow Styles page

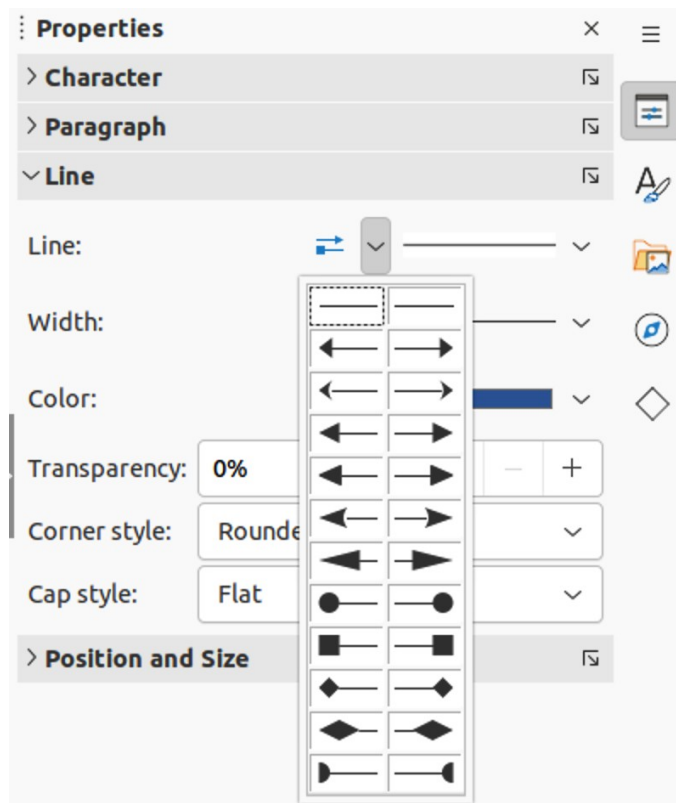


Figure 10: Arrowhead styles in Line panel in Properties deck on Sidebar

- b) Go to **Format > Line** on the Menu bar or right-click on the arrow to open the Line dialog.
 - c) Click on **Arrow Styles** to open the **Arrow Styles** page (Figure 9).
 - d) Select an arrow style from the options available in the *Arrow style* drop-down list.
 - e) Click **OK** to apply the arrow style and close the Line dialog.
 - f) Click in an empty space on the drawing to deselect the arrow.
- 3) To format an arrow using different arrowhead styles for each end of the arrow:
- a) Select the arrow so that the selection handles are displayed.
 - b) Open the **Line** panel on the Properties deck of the Sidebar (Figure 10).
 - c) In *Line*, click on **Arrow Style** to open the drop-down list for arrowhead styles
 - d) Select an arrowhead style from the left-hand list of arrowhead styles for the start point of the arrow.
 - e) Select an arrowhead style from the right-hand list of arrowhead styles for the end point of the arrow.
 - f) Click in an empty space on the drawing to deselect the arrow.

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 11).

- Click on the triangle ▼ next to **Basic Shapes** on the Drawing toolbar and select the type of rectangle or square required from the drop-down list.
 - Select the type of rectangle or square on the Legacy Rectangles toolbar (Figure 12). 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.
 - 3) If a rectangle option is selected, hold down the *Shift* key while dragging the cursor to draw a square.
 - 4) If a rectangle option is selected, hold down the *Alt* key while dragging the cursor to draw a rectangle from its center.
 - 5) If a rectangle option is selected, hold down the *Shift* and *Alt* keys while dragging the cursor to draw a square from its center.
 - 6) If a square option is selected, hold down the *Alt* key while dragging the cursor to draw a square from its center.

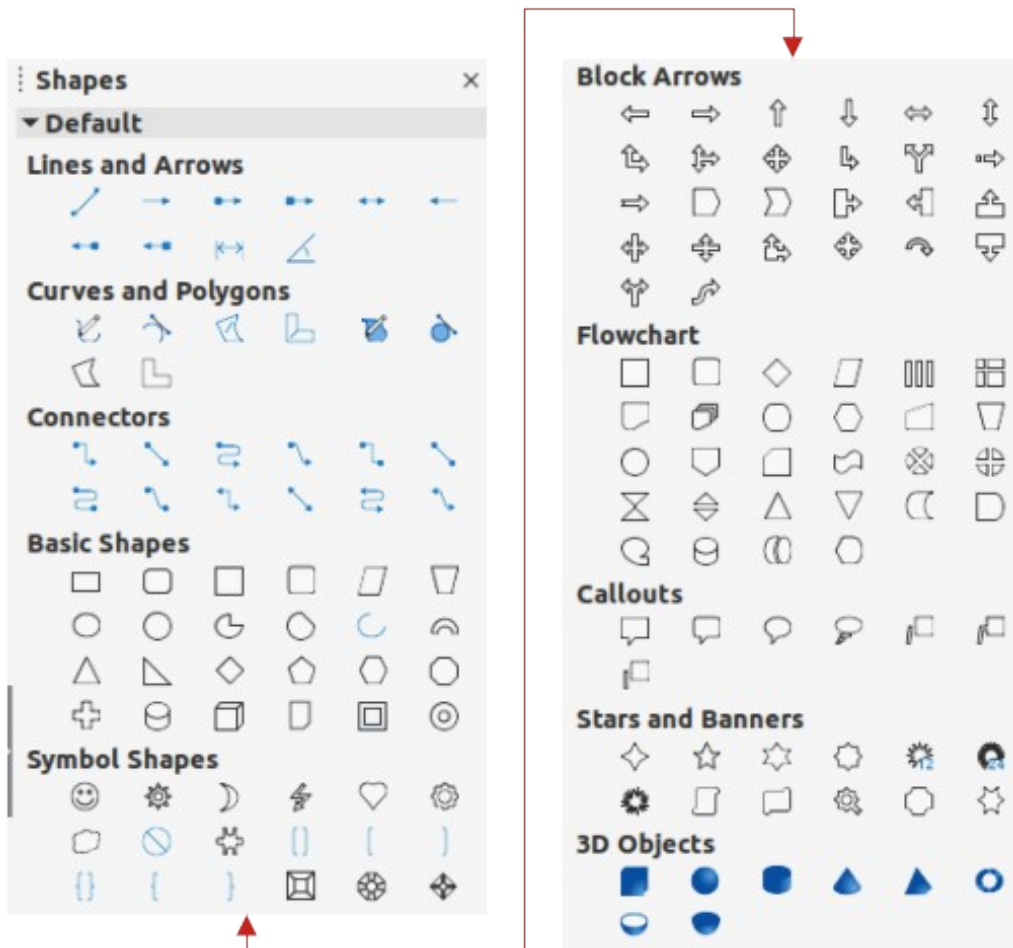


Figure 11: Shapes deck on Sidebar

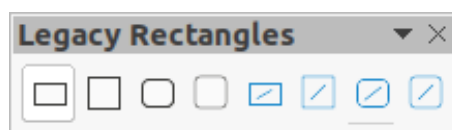


Figure 12: Legacy Rectangles toolbar

✓ Note

If the option *When creating or moving objects* has been selected in the **Constrain Object** section of **Tools > Options > LibreOffice Draw > Grid**, the action of the *Shift* key reversed. A square is drawn instead of a rectangle. To draw a rectangle, hold down the *Shift* key. This reversal of the *Shift* key action also applies when drawing 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 the Shapes deck on the Sidebar.
 - Click on the triangle ▼ next to **Basic Shapes** on the Drawing toolbar 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 13). 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.
- 3) 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.
- 4) If an ellipse option is selected, hold down the *Shift* key while dragging the cursor to draw a circle.
- 5) If an ellipse option is selected, hold down the *Alt* key while dragging the cursor to draw an ellipse from its center.
- 6) If an ellipse option is selected, hold down the *Shift* and *Alt* keys while dragging the cursor to draw a circle from its center.
- 7) If a circle option is selected, hold down the *Alt* key while dragging the cursor to draw a circle from its center.



Figure 13: Legacy Circles and Ovals toolbar

i Tip

To quickly insert a line, rectangle, ellipse, or text, press and hold down the *Ctrl* (macOS ⌘) key and then click on **Line**, **Rectangle**, **Ellipse**, or **Text** and a standard sized object is drawn automatically in the Workspace. The size, shape, and color are all standard values. These attributes can be changed later, if desired. See Chapter 4, Changing Object Attributes for more information.

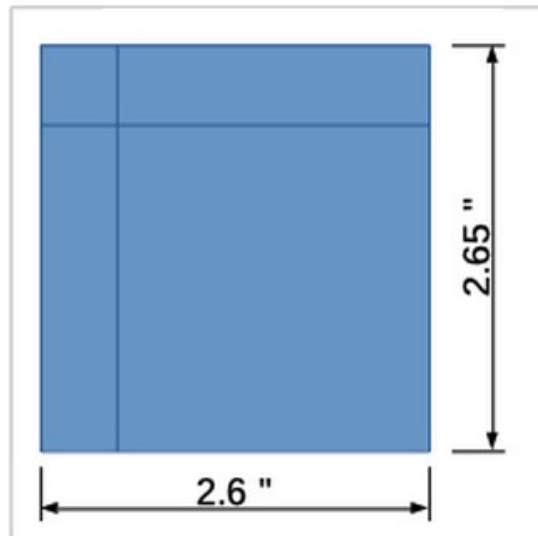


Figure 14: Dimension lines on an object

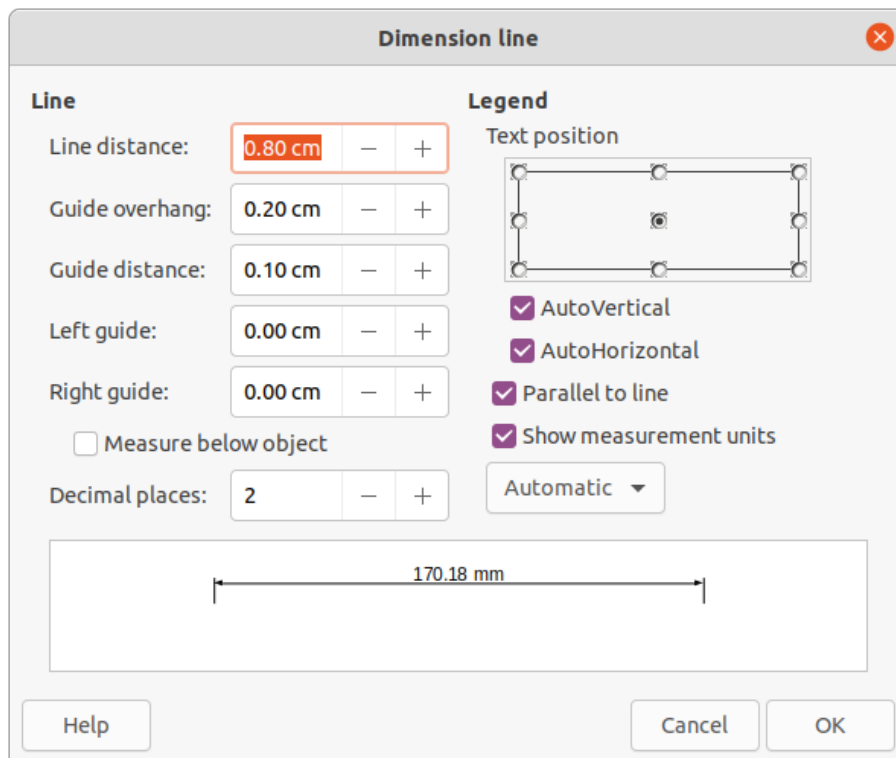


Figure 15: Dimension Line dialog

Dimension lines

Dimension lines display a measurement of an object in the drawing (Figure 14). The 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 size of its sides, edges, and distances.

To format the display of a dimension line and its components, right-click on the dimension line and selecting **Dimensions** from the context menu to open the Dimension line dialog (Figure 15).

Inserting 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 start of the dimension line.
 - 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 the. 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.

Note

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

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 the **Basic Shapes** panel in the Shapes deck on the Sidebar.
 - Click on the triangle ▼ next to **Basic Shapes** on the Drawing toolbar 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. To display the Legacy Circles and Ovals toolbar, go to **View > Toolbars** on the Menu bar and select it.
- 2) Click, hold 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, polygons or freeform lines

Select the required tool for drawing curves, polygons, or freeform lines using one of the following methods:

- Click on the triangle ▼ next to **Curves and Polygons** on the Drawing toolbar and select the type of curve, polygon or freeform line from the drop-down list.
- Select the type of curve, polygon or freeform line in the **Curve and Polygons** panel of the Shapes deck on the Sidebar.

Curves

- 1) Click, hold and drag the cursor from the starting point to draw a line.
- 2) Release and continue to drag the cursor to bend the line into the required curve shape.

- 3) Click to set the end point of the curve and position the curve on the drawing.
- 4) Continue dragging the cursor to draw straight lines at the end of the curve. Each click sets a corner point and allows drawing of another straight line from each corner point.
- 5) Double-click to end the drawing of a curve and straight lines.

Note

A filled curve automatically joins the last point to the first point to close off the object and fills it with the selected fill. A curve without filling is not closed at the end of the drawing.

Polygons

- 1) Click, hold and drag the cursor to draw a line between the first and second corner points.
- 2) Click again to end the drawing between the first and second corner points of the polygon.
- 3) 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.
- 4) Double-click to end the drawing of a polygon.

Note

A filled polygon automatically joins the last corner point to the first corner point to close off the figure and fills it with the selected fill. A polygon without filling is not closed at the end of the drawing.

Polygons 45°

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

Glue points and connectors

Glue points

All Draw objects have glue points, which are not normally displayed. Glue points 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.

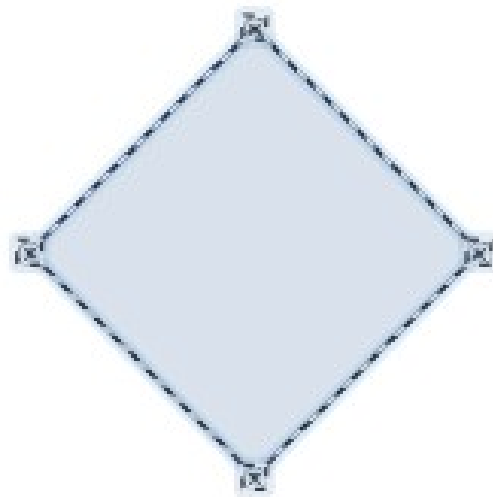


Figure 16: Example of glue points on an object

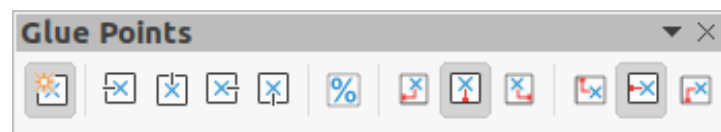


Figure 17: Glue Points toolbar

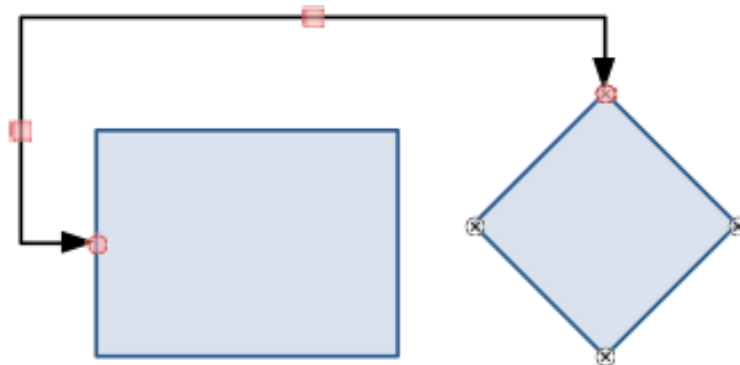


Figure 18: Example of a connector between two objects

Most objects have four glue points, as shown in the example in Figure 16. More glue points can be added and customized using the Glue Points toolbar (Figure 17). Go to **View > Toolbars > Glue Points** on the Menu bar to open the toolbar.

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. For a more detailed description on the use of glue points, see Chapter 3, Working with Objects and Object Points and Chapter 8, Connections, Flowcharts, and Organization Charts.

Connectors

Connectors are lines or arrows whose ends automatically snap to a glue point of an object. Connectors are not the same as lines and arrows. When objects are moved or reordered, the connectors remain attached to a glue point. Figure 18 shows an example of two objects and a connector.

Draw offers a range of 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 of the use of connectors, see Chapter 8, Connections, Flowcharts, and Organization Charts.

Drawing geometric shapes

The tools for drawing geometric shapes are located on the Drawing toolbar and on the Shapes deck in the Sidebar. 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 4.

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 sub-toolbar.

- Click and hold on the dotted line at the top of the toolset, as shown in Figure 19, then drag it across the screen to the Workspace and release to create a floating toolbar
- To close a floating toolbar, click on the X on the right of the toolbar title.

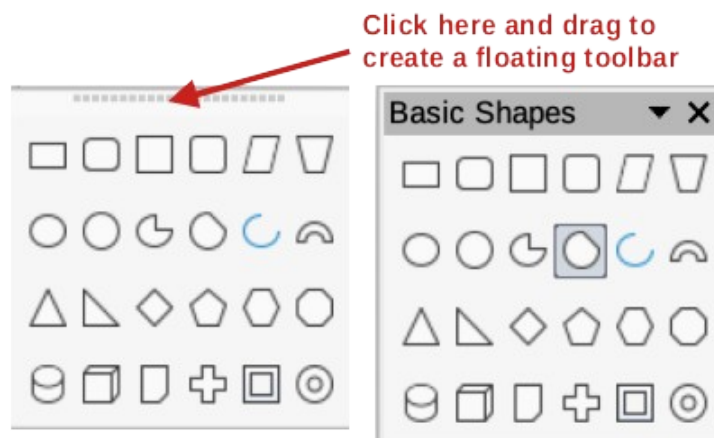


Figure 19: Creating floating toolbar

✓ Note

The tool icons on the Drawing toolbar always indicate the last geometric shape drawn and may not be the same as the tool icons shown on the Drawing toolbar in this chapter. Indicating the last tool used makes it easier to use the same tool again.

✓ Note

Text can be added to all of these geometric shapes. For more information, see Chapter 11, Advanced Draw Techniques.

Basic shapes

Clicking on the triangle ▼ to the right of **Basic Shapes** on the Drawing toolbar opens the Basic Shapes sub-toolbar (Figure 20). This sub-toolbar 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 20: Basic Shapes sub-toolbar

Symbol shapes

Clicking on the triangle ▼ to the right of **Symbol Shapes** on the Drawing toolbar opens the Symbol Shapes sub-toolbar (Figure 21). Alternatively, select the required tool from the **Symbol Shapes** panel in the Shapes deck on the Sidebar.



Figure 21: Symbol Shapes sub-toolbar

Block arrows

Clicking on the triangle ▼ to the right of **Block Arrows** on the Drawing toolbar opens the Block Arrows sub-toolbar (Figure 22). Alternatively, select the required tool from the **Block Arrows** panel in the Shapes deck on the Sidebar.



Figure 22: Block Arrows sub-toolbar

Flowcharts

Clicking on the triangle ▼ to the right of **Flowchart** on the Drawing toolbar opens the Flowchart sub-toolbar (Figure 23) for symbols. Alternatively, select the required tool from the **Flowchart** panel in the Shapes deck on the Sidebar. The creation of flowcharts, organization charts, and similar planning tools are further described in Chapter 8 Connections, Flowcharts and Organization Charts.

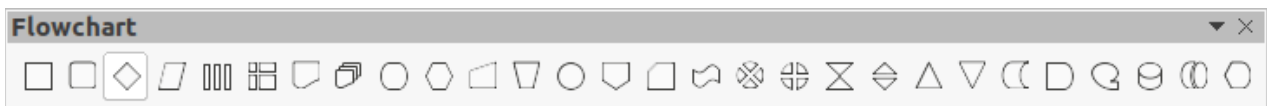


Figure 23: Flowchart sub-toolbar

Callouts

Clicking on the triangle ▼ to the right of **Callout** on the Drawing toolbar opens the Callouts sub-toolbar (Figure 24). Alternatively, select the required tool from the **Callouts** panel in the Shapes deck on the Sidebar.



Figure 24: Callouts sub-toolbar

Stars and banners

Clicking on the triangle ▼ to the right of **Stars and Banners** on the Drawing toolbar opens the Stars and Banners sub-toolbar (Figure 25). Alternatively, select the required tool from the **Stars and Banners** panel in the Shapes deck on the Sidebar.



Figure 25: Stars and Banners sub-toolbar

3D Objects

Clicking on the triangle ▼ to the right of **3D Objects** on the Drawing toolbar opens the 3D-Objects sub-toolbar (Figure 26). Alternatively, select the required tool from the **3D-Objects** panel in the Shapes deck on the Sidebar.



Figure 26: 3D-Objects sub-toolbar

Adding, inserting and formatting text

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