

LibreOffice
The Document Foundation

Draw Guide

Chapter 2

Drawing Basic Shapes

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Note for Mac users

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

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

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Creating simple drawings

You can create 2D and 3D objects in Draw. 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* in this guide.

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

The drawing tools are found on the Drawing toolbar (Figure 1).

As described in *Chapter 1 Introducing Draw*, the Drawing toolbar is normally located at the bottom of the window. If you do not see it, you can activate it from the **View > Toolbars** menu. As with all the components of LibreOffice, you can undock the Drawing toolbar and place it wherever you want to on the Draw window as a floating toolbar. You can also configure toolbars by adding, moving, hiding, or deleting toolbar icons.



Figure 1: Drawing toolbar

When you draw a shape, select one for editing or add text, 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.

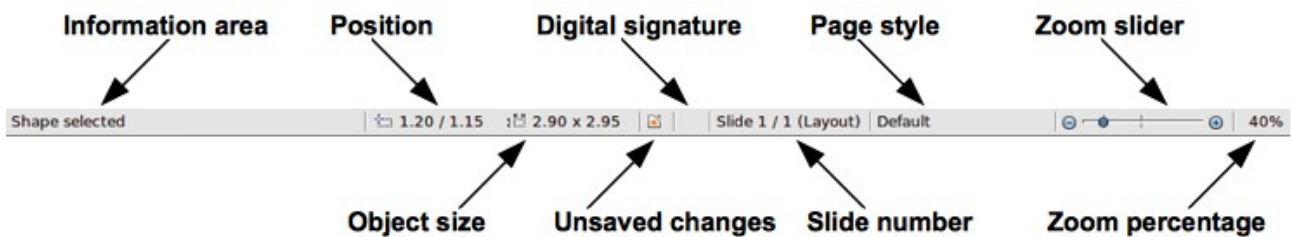


Figure 2: Draw status bar

Custom shapes

















Draw also offers the ability to create *custom shapes*, which are the equivalent of *Autoshapes* in Microsoft Office. Custom shapes differ in their properties and are dealt with separately in the relevant chapters of this guide. The main differences relate to the behavior of 3D objects and text handling. Text frames in Draw have their own geometric format.

Drawing basic shapes

Basic shapes, including text, are treated as objects in Draw. The various tools available for drawing basic shapes, from left to right on the Drawing toolbar, are given in Table 1.


Please note that some of the icons on the Drawing toolbar will change according to the shape that has been selected from the choice available. Available tools are indicated by a small triangle or arrow to the right of the icon. See "Drawing geometric shapes" on page 13 for information on the available shapes.

Table 1: Basic drawing tools

Icon	Tool name	Icon	Tool name	Icon	Tool name	Icon	Tool name
	Select		Line		Line ends with arrow		Rectangle
	Ellipse		Text		Vertical text		Curve
	Connector		Lines and arrows		Basic shapes		Symbol shapes
	Block arrows		Flowcharts		Callouts		Stars

Drawing straight lines

We begin with the drawing of the simplest element—a straight line.

Click on the **Line** icon  and place the mouse pointer at the point where you want to start the line (Figure 3). Drag the mouse while keeping the mouse button pressed. Release the mouse button at the point where you want to end the line. A selection handle appears at each end of the line, showing that this object is the currently selected object. The selection handle at the starting point of the line is slightly larger than the other selection handle.

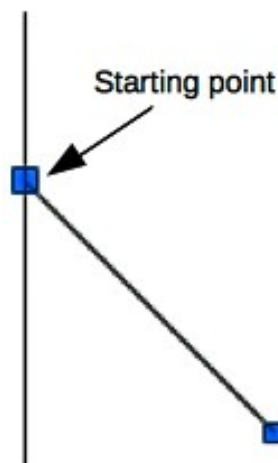


Figure 3: Drawing a straight line

Keeping the *Shift* key pressed while you draw a line restricts the drawing angle of the line to a multiple of 45 degrees (0, 45, 90, 135, and so on).

Caution



This is the default behavior of the *Shift* key. However, if the option *When creating or moving objects in the Snap position* section of **Tools > Options > LibreOffice Draw > Grid** has been selected, the action of the *Shift* key is the opposite. Lines will automatically be drawn at a multiple of 45 degrees *unless* the *Shift* key is pressed.

Keeping the *Ctrl* key pressed while drawing a line enables the end of the line to snap to the nearest grid point.

Caution



This is the default behavior of the *Ctrl* key. However, if the **Snap to Grid** option on the **View->Grid** menu has been selected, the *Ctrl* deactivates the snap to grid activity.

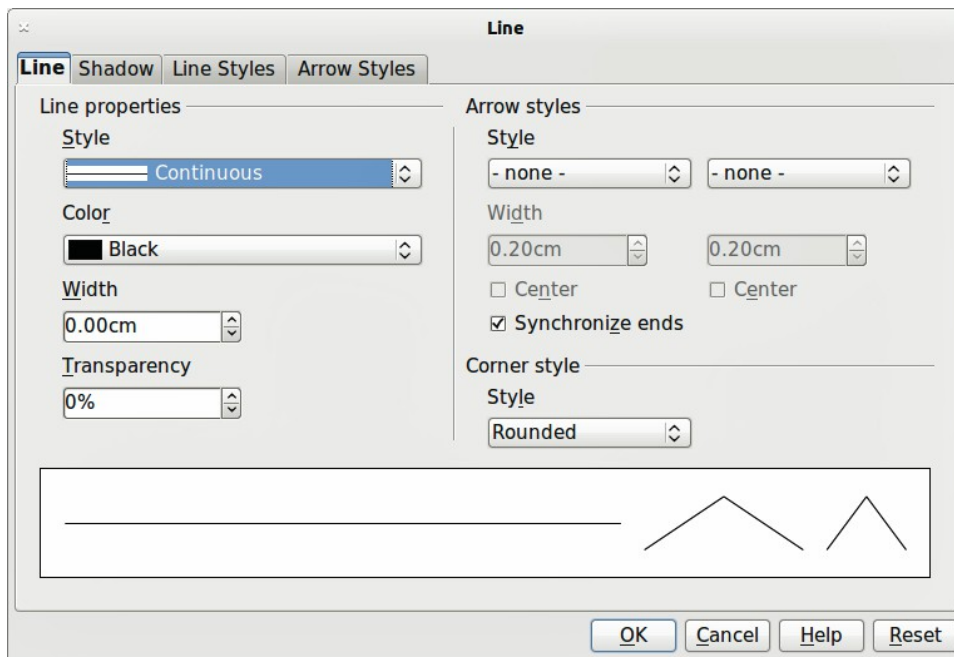


Figure 4: Line dialog

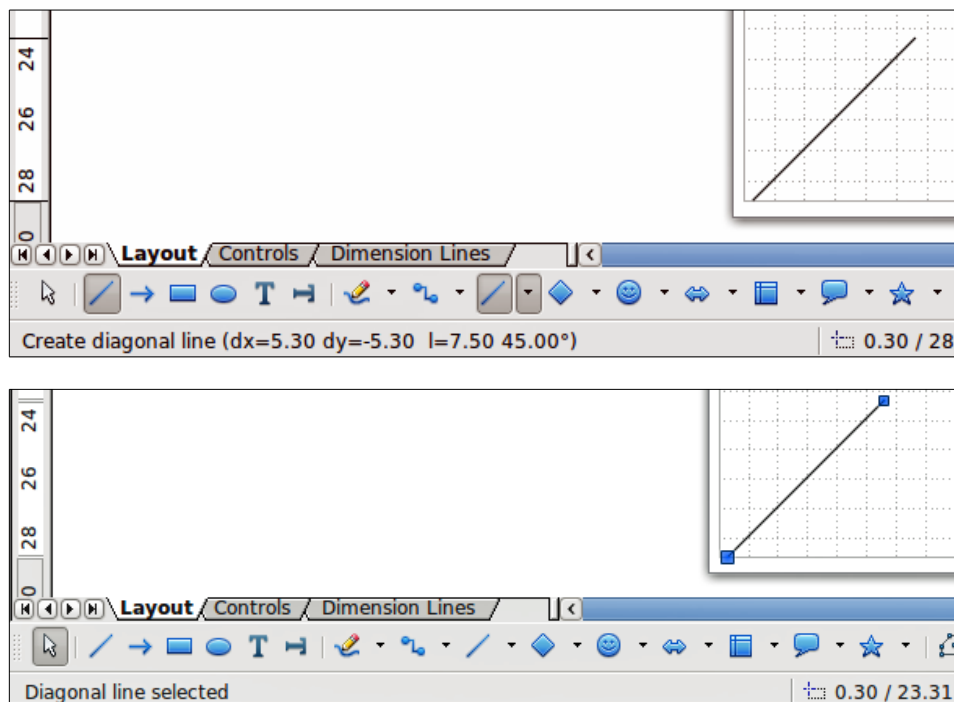


Figure 5: Information area in the status bar


The spacing (resolution) of the grid points can be adjusted under **Tools > Options > LibreOffice Draw > Grid**. See *Chapter 3 Working with Objects and Object Points* for more information.

Holding down the *Alt* key while drawing a line results in the line extending outwards symmetrically in both directions from the start point. This lets you draw lines by starting from the middle of the line.


When a line is drawn, it uses default attributes. To change any of these attributes, select the line by clicking on it, then *right-click* and select **Line** to open the Line dialog (Figure 4). Line style, line width and line color can also be changed using the controls in the Line and Filling toolbar at the top of the workspace.

While you are working with a line (or any other element), you can use the information field on the Status bar to monitor the activity. A description of the current activity or selection is shown when you are working with elements. Figure 5 shows two examples.

Drawing arrows

Arrows are drawn like lines. In fact Draw classifies *arrows* as a subgroup of lines: lines with arrowheads. The information field on the status bar shows them only as lines. Click on the **Line Ends with Arrow** icon  to draw an arrow. The arrow head is drawn at the end point of the arrow when you release the mouse button.

Drawing different types of lines and arrows

Click on the small triangle or arrow to the right of the **Lines and Arrows**  icon on the Drawing toolbar to open a pop-up toolbar with ten tools for drawing lines and arrows. Alternatively, go to **View > Toolbars > Arrows** to open the Arrows toolbar as a floating toolbar (Figure 6 and Table 2). The icon for the tool used most recently will be shown on the Drawing toolbar to make it easier to use the same tool again.












After drawing the line, you can change the arrow style by clicking on the **Arrowheads** icon  in the Line and Filling toolbar and select the arrow start and end options.





Figure 6: Arrows toolbar

Table 2: Tools of the Arrows toolbar

Icon	Tool name	Icon	Tool name	Icon	Tool name	Icon	Tool name
	Line		Line ends with arrow		Line with arrow/circle		Line with arrow/square
	Line (45°)		Line starts with arrow		Line with circle/arrow		Line with square/arrow
	Dimension line		Line with arrows				

Drawing rectangles or squares

Drawing a rectangle is similar to drawing a straight line. Click on the **Rectangle** icon  in the Drawing toolbar. As you draw the rectangle with the mouse cursor, the rectangle appears with the bottom right corner of the rectangle attached to the cursor.

Squares are rectangles with all sides of equal length. To draw a square, click on the **Rectangle** icon  and hold down the *Shift* key whilst you draw a square.


Note

If the option *When creating or moving objects* has been selected in **Tools > Options > LibreOffice Draw > General**, the action of the *Shift* key is reversed. When the Rectangle tool is selected, a square is drawn. To draw a rectangle you have to press the *Shift* key when drawing. This *Shift* key reversal also applies when drawing ellipses and circles in “Drawing ellipses and circles” on page 8.

To draw a rectangle or square from its center rather than the bottom right corner, position your cursor on the drawing, press the mouse button and then hold down the *Alt* key while dragging with the cursor. The rectangle or square uses the start point (where you first clicked the mouse button) as the center.

With the rectangle or square selected, you can quickly change border style, line width, or color, and the type of fill color or fill pattern using the tools on the Line and Filling toolbar. For more information on changing the attributes of a rectangle or square, see *Chapter 4 Changing Object Attributes*.

Drawing ellipses and circles

To draw an ellipse (also called an oval), click on the **Ellipse** icon  on the Drawing toolbar. A circle is an ellipse with both axes the same length. To draw a circle, click on the **Ellipse** icon and hold down the *Shift* key whilst you draw a circle.

To draw an ellipse or circle from its center, position your cursor on the drawing, press the mouse button and then hold down the *Alt* key while dragging with the cursor. The ellipse or circle uses the start point (where you first clicked the mouse button) as the center.

With the ellipse or circle selected, you can quickly change border style, line width, or color, and the type of fill color or fill pattern using the tools on the Line and Filling toolbar. For more information on changing the attributes of an ellipse or circle, see *Chapter 4 Changing Object Attributes*.

Note

If you first press and hold the *Ctrl* key down and then click on one of the icons for Line, Rectangle, Ellipse or Text, an object is drawn automatically in the center of the workspace area using default values. The object attributes can then be changed using the Line Fill toolbar or the information in *Chapter 4 Changing Object Attributes*. This only works if the icon has no associated toolbar; that is no triangle or arrow on the right side of the icon.

Adding arc and segment tools to the Drawing toolbar

If you have to draw arcs or segments (partial circles or ellipses), then you can add the Circles and Ovals toolbar (Figure 7) to the Drawing toolbar. The Circles and Ovals toolbar is an optional toolbar that requires you to customize the Drawing toolbar.

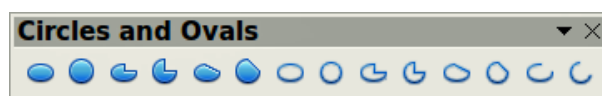


Figure 7: Circles and Ovals toolbar

- 1) Go to **View > Toolbars > Customize** to open the **Customize** dialog (Figure 8). Alternatively, right click on an icon in the Drawing toolbar and select **Customize Toolbar**.
- 2) Make sure the **Toolbars** page of the Customize dialog is open, then select **Drawing** in the **Toolbar** field and click on **Add**.
- 3) In the **Add Commands** dialog (Figure 9), select **Drawing** in the **Category** list.
- 4) Select the first **Ellipse** command in the **Commands** list. The **Description** section at the bottom of the dialog will indicate that you have selected the command for the Circles and Ovals toolbar.
- 5) Click on **Add** and then click **Close**.
- 6) In the Customize dialog, make sure that the checkbox by the new Ellipse command is checked.

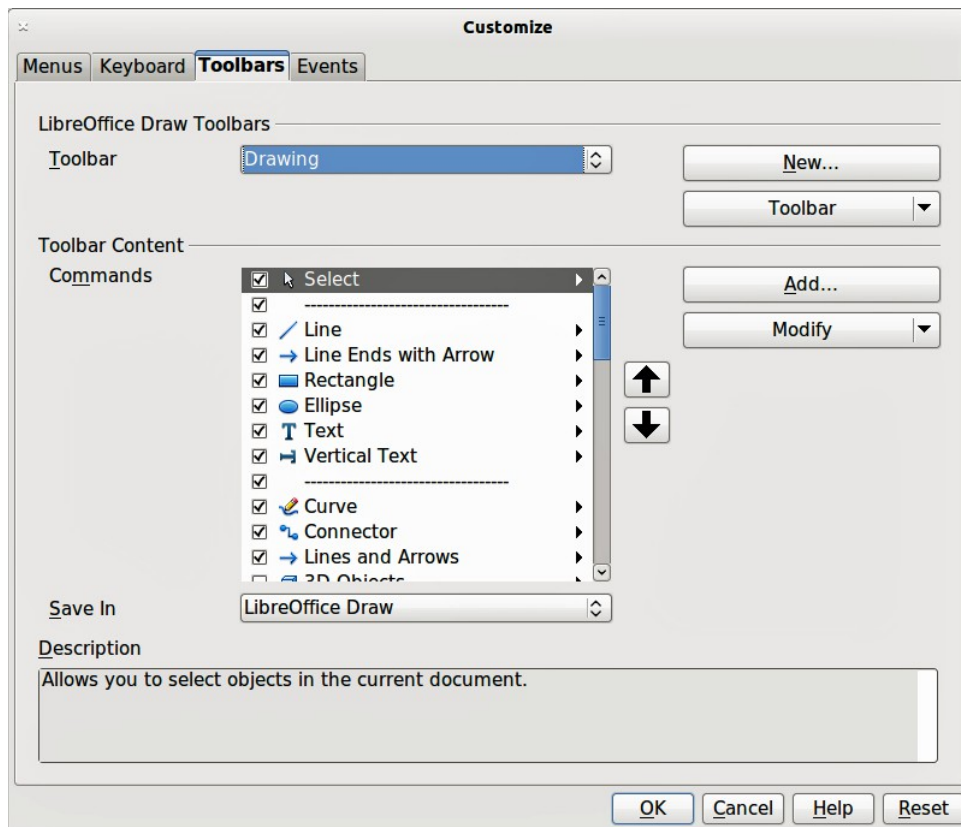


Figure 8: Customize dialog

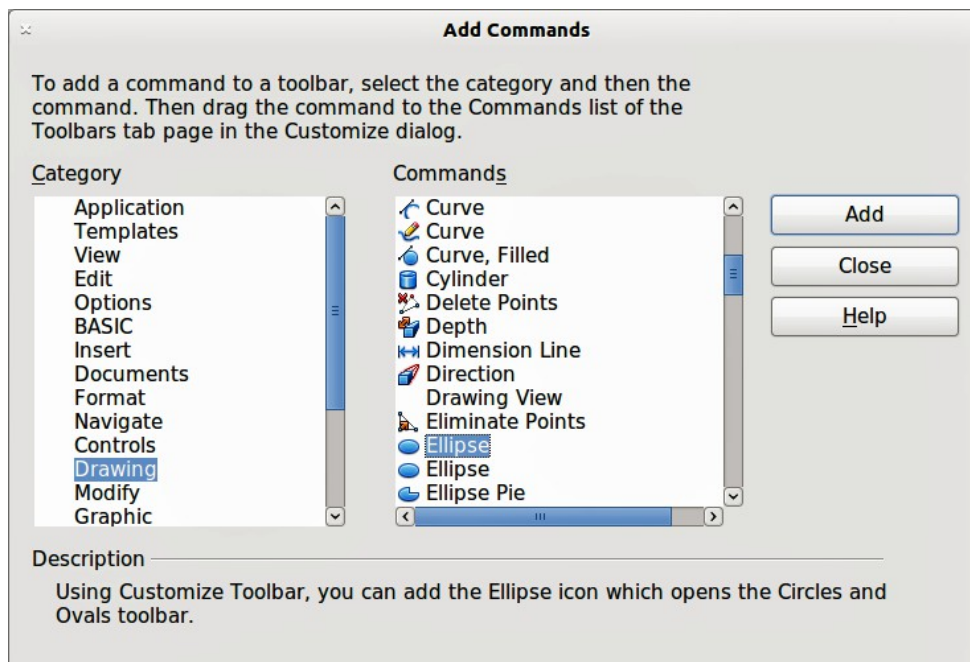




Figure 9: Add Commands dialog

- 7) Select the new Ellipse command and use the up and down arrow buttons to move it to the desired position on the Drawing toolbar.
- 8) Click **OK** to save the customized Drawing toolbar.

The new **Ellipse** icon  appears on the Drawing toolbar with a small triangle or arrow to the right of it. Click on this triangle or arrow to open the Circles and Ovals toolbar (Figure 7). To make this toolbar into a floating toolbar, drag the toolbar onto the workspace area.


To remove the standard Ellipse icon  from the Drawing toolbar, open the Customize dialog and deselect it in the *Commands* list. Alternatively, select the Ellipse command, click the **Modify** button and select Delete from the drop-down menu.

To return the Drawing toolbar to its default settings, open the Customize dialog. Click on the **Toolbars** button, select **Restore Default Settings** from the drop down list and click on the **Yes** button to reset the toolbar.

Drawing arcs or segments

- 1) To draw an arc or segment, select the appropriate icon in the Circles and Ovals toolbar (Figure 7).
- 2) Click and drag with the mouse cursor to create a guide circle or ellipse, then release the mouse button.
- 3) Move the cursor to the position where you want the arc or segment to start. The status bar indicates the angle in degrees.
- 4) Single-click on this point to start drawing the arc or segment.
- 5) Move the cursor to create the arc or segment. The status bar indicates the angle in degrees.
- 6) When you have drawn the arc or segment you require, single click once more to complete the arc or segment.

Drawing curves or polygons

To draw a curve or polygon click the **Curve** icon  on the Drawing toolbar. Click on the triangle or arrow to the right of the icon to open the tools that are available (Figure 10 and Table 3).









Note

Hovering the mouse pointer over this icon gives a tooltip of *Curve*. If you open the floating toolbar, the title is *Lines* as shown in Figure 10.



Figure 10: Curves (*Lines*) toolbar

Table 3: Curve and polygon tools

Icon	Tool name	Icon	Tool name	Icon	Tool name	Icon	Tool name
	Curve filled		Polygon filled		Polygon 45° filled		Freeform line filled
	Curve		Polygon		Polygon 45°		Freeform line

If you move the mouse cursor over one of the icons, a tooltip pops up with a description of the function. For a more detailed description for handling Bézier curves, see *Chapter 10 Advanced Draw Techniques*.

Curves

Click and hold the left mouse button to create the starting point of your curve, then, while holding down the left mouse button, drag from the starting point to draw a line. Release the left mouse

button and continue to drag the cursor to bend the line into a curve. Click to set the end point of the curve and fix the line on the page. To continue with your line, drag the mouse cursor to draw a straight line. Each mouse click sets a corner point and allows you to continue drawing another straight line from the corner point. A double click ends the drawing of your line.

A filled curve automatically joins the last point to the first point to close off the figure and fills it with the current standard fill color. A curve without filling will not be closed at the end of the drawing.

Polygons

Click and draw the first line from the start point with the left mouse button held down. As soon as you release the mouse button, a line between the first and second points is drawn. Move the cursor to draw the next line. Each mouse click sets a corner point and allows you to draw another line. A double-click ends the drawing.

A filled polygon automatically joins the last point to the first point to close off the figure and fills it with the current standard fill color. A polygon without filling will not be closed at the end of the drawing.

Polygons 45°

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

Note

Holding down the *Shift* key when drawing lines with the Curve or Polygon tools will also restrict the angles between the lines to 45 or 90 degrees.

Freeform lines

Using the Freeform Line tools is similar to drawing with a pencil on paper. Press and hold the left mouse button and drag the cursor to the line shape you require. It is not necessary to end the drawing with a double-click, just release the mouse button and the drawing is completed.

If Freeform Line Filled is selected, the end point is joined automatically to the start point and the object is filled with the appropriate color.

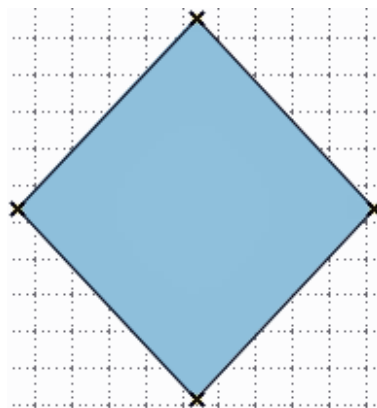



Figure 11: Gluepoints



Figure 12: Gluepoints toolbar

Glue points and connectors

Glue points

All Draw objects have glue points, which normally are not displayed. Gluepoints become visible when the **Connectors** icon  on the Drawing toolbar is selected.

Most objects have four gluepoints (Figure 11). You can add more glue points and customize glue points, using the **Gluepoints** toolbar (Figure 12). Go to **View > Toolbars > Gluepoints** to open the toolbar.

Glue points are not the same as the selection handles of an object. The handles are for moving or changing the shape of an object, as described in *Chapter 3 Working with Objects and Object Points*. 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 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 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 13 shows an example of two objects and a connector.

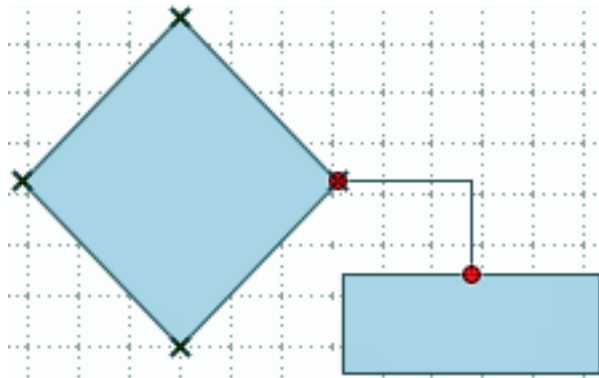



Figure 13: A connector between two objects





Draw offers a range of different connectors and connector functions. Click on the arrow next to the **Connector** icon  to open the Connectors toolbar (Figure 14 and Table 4).









For a more detailed description of the use of connectors, see *Chapter 8 Connections, Flowcharts and Organization Charts*.



Figure 14: Connectors toolbar

Table 4: Connector tools

Icon	Tool name	Icon	Tool name	Icon	Tool name	Icon	Tool name
	Connector		Connector ends with arrow		Connector with arrows		Line connector

Icon	Tool name	Icon	Tool name	Icon	Tool name	Icon	Tool name
	Line connector ends with arrow		Line connector with arrows		Straight connector		Straight connector ends with arrow
	Straight connector with arrows		Curved connector		Curved connector ends with arrow		Curved connector with arrows

Drawing geometric shapes

The icons for drawing geometric shapes are located on the Drawing toolbar and each geometric shape is explained in the following sections. Clicking on the triangle or arrow to the right of the icon opens a floating toolbar giving access to the tools for that geometric shape.


Tip

The use of these tools for geometric shapes is similar to the tool used for drawing rectangles and squares. For more information, see “Drawing rectangles or squares” on page 7.

Note

The icons for geometric shapes displayed on the Drawing toolbar will change shape according to the last tool selected and used to draw an object.

Basic shapes

Click on the triangle or arrow to the right of the **Basic Shapes** icon  to open the Basic Shapes toolbar (Figure 15) for drawing basic shapes. This toolbar also includes a rectangle tool identical to the one already displayed on the Drawing toolbar.

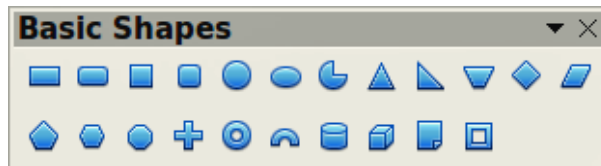


Figure 15: Basic Shapes toolbar

Symbol shapes


Click on the triangle or arrow to the right of the **Symbol Shapes** icon  to open the Symbol Shapes toolbar (Figure 16) for drawing symbols.



Figure 16: Symbol Shapes toolbar

Block arrows

Click on the triangle or arrow to the right of the **Block Arrows** icon  to open the Block Arrows toolbar (Figure 17) for drawing block arrows.



Figure 17: Block Arrows toolbar

Flowcharts


Click on the triangle or arrow to the right of the **Flowcharts** icon  to open the Flowchart toolbar (Figure 18) for symbols used in drawing flowcharts. The creation of flowcharts, organization charts, and similar planning tools are further described in *Chapter 9 Organization Charts, Flow Diagrams, and More*.



Figure 18: Flowcharts toolbar

Callouts

Click on the triangle or arrow to the right of the **Callouts** icon  to open the Callouts toolbar (Figure 19) for drawing callouts.



Figure 19: Callouts toolbar

Stars and banners


Click on the triangle or arrow to the right of the **Stars** icon  to open the Stars and Banners toolbar (Figure 20) for drawing stars and banners.



Figure 20: Stars and Banners toolbar

Adding text to drawings and objects

In Draw you can add, insert and format text to a drawing, objects and shapes as follows:

- As a dynamic text frame, which is an independent Draw object and expands as you add more text within the frame.
- Text within a previously drawn object. This integrates text within the object and is placed within the boundary rectangle that surrounds an object. This boundary rectangle is not dynamic and care must be taken so that your text does not go outside of the object boundaries.
- For more information on how to add, insert and format text in a drawing or drawing objects, see *Chapter 9 Adding and Formatting Text*.